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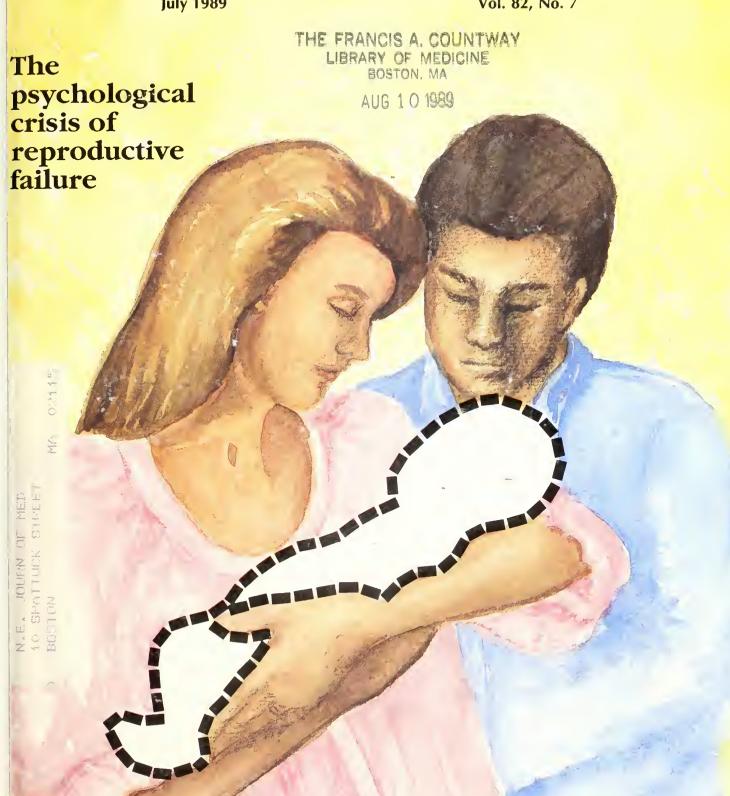




The Journal of the Indiana State Medical Association

July 1989

Vol. 82, No. 7



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INDIANA MEDICINE

The Journal of the Indiana State Medical Association

July 1989

Vol. 82, No. 7

THE FRANCIS A. COUNTWAY
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scientific contributions

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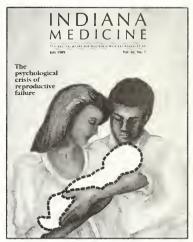
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■ stethoscope

ICD-9-CM grace period extended indefinitely

The Health Care Financing Administration (HCFA) has extended indefinitely the grace period for complying with the ICD-9-CM coding requirement on all Medicare Part B claims. The extension came about as a result of AMA efforts. The coding requirement was originally scheduled to go into effect April 1, but HCFA, in response to AMA concerns, agreed to delay the required conversion date until June 1. The AMA continued to push for an additional extension because of the short notice given to physicians and the time required to make the change. The HCFA says the indefinite extension is expected to "assure a continued smooth implementation of the regulation."

ISMA officers meet with senator and congressmen

The ISMA voiced its concerns about ethics in patient referral, legislation to require health insurance for all employed people and the Physician Payment Review Commission Report to Congress, during a Washington visit in May. ISMA President Fred W. Dahling, M.D., Chairman of the Board William Van Ness, M.D., and President-elect George Rawls, M.D., each met with two members of the Indiana delegation. Those visited included Rep. Lee Hamilton, Sen. Dan Coats, Rep. Jim Jontz, Rep. John Hiler, Rep. Jill Long and Rep. Frank McCloskey's health legislative assistant.

Doctors concerned over QIP

Peer Review Organizations (PROs) are implementing a new Quality Intervention Plan (QIP) that requires PRO physicians to identify and confirm quality concerns in cases they review. The QIP sets forth three levels of medical mismanagement according to whether there are significant, potential or no adverse effects on the patient. Each level is assigned a severity weight. Each quarter, the PRO will profile the total weights accumulated for reviews completed that quarter for each physician or provider. The total severity weight will determine the type of corrective action to be implemented. The PRO must initiate corrective action when any provider receives a total weighted score of three or more. Interventions and trigger levels are: notification (3), educational efforts (10), intensified review (15), other interventions (20), consideration of coordination with licensing and certification bodies (25), and consideration of sanction proceedings (25). Each PRO is required to use the HCFA QIP and implement the intervention inclusive of lesser trigger levels. In other words, a score of 19 would require notification, educational effrots and intensified review. The AMA has questioned HCFA's decision to limit the severity levels to just three categories.

medical museum notes

Charles A. Bonsett, M.D. Indianapolis

James Whitcomb Riley, the Hoosier poet (1849 to 1916), probably is known to most Indiana physicians as a result of their knowledge of and experience in the children's hospital, which bears his name, rather than their knowledge of or experience with his poetry.

Riley, who was born in Greenfield, was a multi-talented individual. He had been persuaded to follow in his father's footsteps by pursuing a law career, but law didn't interest him. In a July 29, 1916, *Indianapolis News* article, Dr. S.B. McCrillus of Anderson is credited for starting Riley on a career that ultimately would bring his writing talent to fruition.

Dr. McCrillus was no ordinary physician. He was a patent medicine doctor, a peddler of nostrums and a purveyor of entertainment. He was a road show artist who carried his merchandise and one or more entertainers in his horsedrawn wagon from one Indiana town to another. Riley could sing, act and play the violin, the guitar, the banjo and the snare drum. He could write, present poetry, tell stories and "ham it up" as the situation required. However, Riley was hired initially because of his talent as a sign painter.

Mr. E.I. Lewis, who wrote the *Induanapolis News* article and had known Dr. McCrillus at the turn of the century, quotes Dr. McCrillus on this aspect of his life: "The patent medicine business was not as organized then (the 1870s) as it is today. I did as big a business as anyone. All of us then had great fine wagons and would load up with our medicines and drive from town to town. We would carry a sign painter along and as

we jogged from place to place, would stop and paint signs on fences or barns ...

"We got to Greenfield, and when I was over at the drugstore, Jim McClannahan, who was my painter, scrapped up an acquaintance with this fellow, Riley, who was a red-haired, sorry-looking young fellow ... Riley was a fast painter and his lettering was good.

"Riley himself in his biographical edition tells the story of his other duties: 'My duty was the manipulation of two blackboards swung at the sides of the wagon



Riley's design for the standard remedy of Dr. McCrillus.

during our street lectures and concerts. These boards were alternately embellished with colored drawings illustrative of the manifold virtues of the nostrum vended. Sometimes I assisted with the olio, with dialect recitations and character sketches from the back steps of the wagon."

As a result of his experience with Dr. McCrillus, Riley became associated with three other men to form a sign painting firm known as Graphics. This unique group combined entertainment (to advertise their business) with sign painting.

"All were actors but Riley best and most imaginative of them all. All did queer tricks, but it was Riley who played the blind painter, and it was Riley who would have the terrible fights with his partner-painter on high scaffolds. It would be a long hard fight on the swinging platform high up on the side of the building, and great crowds would be drawn. When excitement was at its height, Riley would conquer his adversary and, with a wild thrust, push him off, apparently to his death. The horrified crowd would find, however, that the conquered painter had a frame and heart of straw."

The March 22, 1952, issue of the Lafayette Journal and Courier tells more about Riley through the words of Dr. Charles C. Crompton of Delphi, who was Indiana's Doctor of the Year in 1950. Dr. Crompton, who had been in practice almost 60 years by that time, had in his early years been in practice with Dr. Wycliffe Smith, a friend of Riley since the 1880s: "The two often rode on horseback and were a familiar sight in Prince Albert coats and 'plug' hats ... Perhaps it was this association that brought on 'Old Doc Sifers' and other poetic works by Riley, for no other American writer has ever pictured the country doctor in richer color ..."

The *Indianapolis Star*, dated Oct. 6, 1935, gives more anecdotes about Riley from the memory of Dr. Carleton B. McCulloch, who was Riley's physician during the last seven years of the poet's life: "After Riley was really paralyzed and then had got a little better so that he could at least drag one foot, he was very much discouraged. We had trouble keeping him in line, for he would want to try all of the patent medicines.

"Bill Nye's brother who lived in Minneapolis wrote Riley about a wonderful patent medicine. Riley wanted to try it. Returning from a vacation, I found the man who (continued on page 553)

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■ what's new

Critikon, a Johnson and Johnson Company, has introduced PROTECTIVIM I.V. Catheter, a protective intravenous catheter. This new catheter was designed for hospital personnel who are at high risk for accidental needlesticks. It is a one-handed procedure that can be performed bedside. Once the catheter is inserted, the nurse uses a push-off tab to slide the catheter off the introducer needle while gliding a protective guard over the needle. A "click" tells the nurse the needle guard is locked in place. At this point, the safely encased needle can be removed from the catheter hub

Hoffmann-La Roche has added new packaging for Accutane capsules to its Pregnancy Prevention Program for Women on Accutane, a prescription drug for the treatment of severe recalcitrant cystic acne. The capsules will be packaged with warnings in bold red type and illustrations of an infant with visible external deformities representing some common birth defects associated with Accutane use during pregnancy.

Access Medical Systems, Inc., has received approval from the U.S. Food and Drug Administration to market the first rapid test for Lyme disease. Access ImmunoCLONE IM Lyme disease test, a 7-minute color test, is suitable for any laboratory site. This Access test will allow physicians to receive results while the patient is still in the office.

Bristol-Meyers Oncology Division has received approval from the U.S. Food and Drug Administration to market lfex (ifosfamide) for the treatment of refractory testicular carcinoma when

used in combination with certain other approved antineoplastic agents. Ifosfamide has been investigated extensively, and preliminary data suggest potential activity against other tumor types. The therapeutic role of ifosfamide in these other diseases is under investigation.

Wampole Laboratories has introduced Wampole** One-Step hCG, a new pregnancy test for urine and serum that reduces hands-on time while providing clear, easy-to-read results. The device requires less than one minute to set up with no additional steps before reading results. Multiple reagents, time-dependent additions, washing, pretreatment of samples and waiting between steps are not required.

Acuson Corp. has introduced new software upgrades for its Acuson[®] 128 Computed Sonography System for fetal Doppler studies. The enhancements are designed specifically for fetal Doppler, an investigational imaging technique expected to be approved shortly by the U.S. Food and Drug Administration. The higher frame rate and color resolution, offered by the software upgrades, provide increased color sensitivity and the ability to capture the rapidly changing hemodynamic information of the fetus.

News of what is new in the medical supply industry is composed of abstracts from news releases. Each item published does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Eastmann Kodak has announced the availability of a new HDL cholesterol kit for use with its Ektachem 400, 500 and 700 analyzers. This new kit eliminates pipetting and reduces HDL extraction time from more than 10 minutes to five minutes. Each kit contains 100 easy-to-use tubes for pretreating HDL samples.

Hewlett-Packard has introduced three new products. The new HP SONOS 1000 vascular-imaging system is a high performance system with full duplex and optional color flow imaging capabilities. It performs blood-flow analysis for complete diagnostic information anywhere in the body. The HP 78352A, an electrocardiogram-only patient monitor, is another new product. This monitor features a digital cardiotach and pace-pulse rejection for a high degree of accuracy with fewer false alarms. The HP Clinical Data Access Network is designed to access multiple information systems from any location, both inside and outside a hospital. This network enables a clinician to access and monitor remote patient-care data at any time to identify potential problems.

Bristol-Meyers Co. has received approval from the U.S. Food and Drug Administration to market Paraplatin® (carboplatin JM-8), a new drug used to treat recurrent ovarian cancer. The primary toxicity of Paraplatin is a reversible bone marrow suppression with significantly reduced kidney toxicity, peripheral nerve toxicity and less severe nausea and vomiting. Concomitant high-dose antiemetic treatment and extensive hydration will not be necessary with this new product. The drug also is easy to administer.

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cme calendar

Methodist Hospital

Methodist Hospital will sponsor the following continuing medical education events in August and September:

Aug. 18-20 – Immunologic Obstetrics Symposium, Methodist Hospital Auditorium, Indianapolis.

Sept. 8-9 – Advanced Trauma Life Support, Methodist Hospital Wile Hall, Indianapolis.

For more information, call Dixie Estridge, CME coordinator, Methodist Hospital of Indiana, at (317) 929-3733.

Indiana University

The Indiana University School of Medicine will sponsor the following CME courses for July, August and September:

July 21-22 – HIV Infection in
Primary Medical
Practice, University
Place Executive Conference Center and
Hotel, Indianapolis.

Aug. 11-12- Surgical Oncology Meeting, University Place Executive Conference Center and Hotel, Indianapolis.

Sept. 21 – Gastroenterology Update 1989, University Place Executive Conference Center and Hotel, Indianapolis.

Sept. 20-23- Üpdate in Cardiology: Cardiovascular Board Review, Indiana Convention Center, 100 S. Capitol Ave., Indianapolis.

For additional information, call Melody Dian, assistant director, Continuing Medical Education,

(317) 274-8353.

St. Vincent Hospital

St. Vincent Hospital will sponsor the following continuing medical education programs for July, August and September:

July 22 – Arthroscopic Laser Workshop, St. Vincent Hospital, Indianapolis.

Aug. 6-7 – Ultrasound Physics Seminar, St. Vincent Hospital, Indianapolis.

Sept. 8 - Practice Management Workshop, St.
Vincent Conference
Center, Indianapolis.

Sept. 17-18- Ultrasound Registry Review, St. Vincent Hospital, Indianapolis

Sept. 22-23- Gynecology Handson Laser Course, St. Vincent Hospital, Indianapolis.

Sept. 29 – 14th Annual Arthur B. Richter Lectureship in Clinical Cardiology, John W. Kirklim, M.D., lecturer, Indiana Roof Ballroom, Indianapolis.

For more information, call Marilyn Soltermann, CME coordinator, at (317) 871-3460.

University of Michigan

July 23-26-

The University of Michigan Medical School will present the following continuing medical education courses in July, August and September:

Third Annual Symposium on Breast Disease: Diagnostic Imaging and Current Management, Grand

Hotel, Mackinac Island, Mich. Aug. 6-9 – Internal Medicine Update, Grand Ho-

Update, Grand Hotel, Mackinac Island, Mich.

Aug. 24-26 – Contemporary Issues in Obstetrics and Gynecology, Grand Traverse Resort Village, Grand Traverse Village, Mich. (cosponsored by Northwestern University Medical School)

Aug. 25-27- Endocrinology and Diabetes Update, Grand Traverse Resort Village, Grand Traverse Village, Mich.

Sept. 21-23 – National Conference on Pediatric Trauma, Towsley Center, Ann Arbor, Mich.

For more information, contact Pattie Goble, University of Michigan Medical School, Towsley Center, Box 0201, Ann Arbor, MI 48109-0201 – (313) 936-9800 or 1-800-962-3555.

University of Wisconsin

The University of Wisconsin will present "Immune Deficiency and Vaccines" Sept. 6 to 8 at the Concourse Hotel in Madison, Wis.

The conference format will include presentations, panel discussions and poster sessions. The faculty consists of Nobel laureates and other internationally known speakers. The fee is \$200, or \$100 for all presenting authors of submitted abstracts or papers.

For more information, contact Cathy Means, Continuing Medical Education, 2715 Marshall Court, Madison, WI 53705 – (608) 263-6637.

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Course Outline

Morning Session

- Differential Diagnosis of Orofacial Pain vs "TMJ" Pain
- MPD (Myofascial pain dysfunction) Explained
- Radiographic Interpretation of TMJ Disorders

Afternoon Session

- Conservative Treatment Modalities (Pharmacotherapy, physiotherapy...)
- Arthroscopy Treatment of the TMJ

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For Information Call:

Dr. Donald Arens
IUSD Director of Continuing Education
(317)274-7782

Splenic and liver trauma in children



Frederick J. Rescorla, M.D. Jay L. Grosfeld, M.D. Indianapolis

 $oldsymbol{1}$ rauma is the leading cause of death in the pediatric age group and is responsible for nearly onehalf of all deaths in children between the ages of one and 14 years. Injuries accounted for 7,108 deaths in 1985. In addition, more than 1.5 million nonlethal pediatric injuries occur annually, one-half of which are minor injuries of little significant consequence.2

Of the remaining patients seen by physicians, 500,000 require hospitalization. This represents 12% to 13% of all admissions to children's hospitals. The most commonly injured organ system requiring hospitalization is the skeletal system, followed by the central nervous system, the thorax and the abdomen.

The purpose of this report is to update the contemporary management of blunt abdominal trauma in children with specific emphasis on splenic and liver injuries.

a Continuing Medical Education series of articles prepared by the faculty of the Indiana University School of Medicine. The program is coordinated and supported by a grant from the school's Division of Continuing

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To obtain Category I credit for this month's article, complete the quiz following this article.

Blunt abdominal trauma in children

Eighty-seven percent of pediatric abdominal injuries are caused by blunt trauma. Following abdominal trauma, the initial evaluation of the patient includes a complete physical examination

and plain chest and abdominal radiographs. Examination of the abdomen in the injured child may be difficult and often misleading, especially in the presence of lower rib fractures, abdominal wall contusions and abrasions, pelvic fracture or gastric distention. Plain roentgenograms of the abdomen may demonstrate free intraperitoneal air, retroperitoneal air from duodenal perforation or associated skeletal (pelvic, lumbar canal) injuries.

Although diagnostic peritoneal lavage (DPL) often is performed in adults in many trauma centers, it is less commonly performed in children. Numerous studies support the sensitivity and specificity of abdominal computerized tomography (CT) scanning, which has emerged as the diagnostic procedure of choice for evaluation of blunt abdominal trauma in

stable children.3

This study allows precise evaluation of both liver and splenic injuries and evaluation of the kidneys and possible pancreaticoduodenal injuries. The study generally is performed with intravenous and oral contrast. This diagnostic method also is used for accurate followup examinations of children with blunt injuries to solid organs treated by observation alone. CT scanning should not be attempted in unstable patients requiring emergent operative intervention.

Splenic injury

The spleen is the most commonly injured abdominal organ in childhood. Appreciation of the increased risk of overwhelming post-splenectomy sepsis in children has led to a heightened awareness of the importance of splenic preservation, especially in the pediatric age group.

The incidence of overwhelming post-splenectomy infection (OPSI) in pediatric trauma patients is approximately 1.5% with a mortality rate of .78%, which is approximately 78 times the expected mortality rate in the general pediatric population.4,5 This has influenced surgeons to attempt splenic salvage procedures by using direct repair (splenorrhaphy) or partial splenectomy. Also, many patients with splenic injury in whom intraperitoneal blood was recovered during diagnostic peritoneal lavage had stopped bleeding at the time of operation. This latter observation stimulated a nonoperative approach in carefully selected patients with splenic

Nonoperative management of splenic trauma was first reported by Upadhyaya and Simpson from the Hospital for Sick Children, Toronto, in 1968.6 Since then, numerous reports from that institution and other pediatric centers have supported this method of management.

In 1978, Ein, et al, described 56 children treated between 1972 and 1977 and noted that 62% of children with splenic trauma did not require operation. In 1981, Wesson, reporting on years 1974 to 1979, noted a nonoperative rate of 70% among 63 children with splenic injury, with 36% of these patients requiring a blood transfusion. The transfusion requirement averaged 31 cc/kg

among those transfused in the nonoperative group vs. 80 cc/kg in the operative group. King, et al, reporting on 68 consecutive cases of splenic injury in children, noted a nonoperative rate of 44%.

Recent data from the Toronto group, evaluating 75 children with splenic injury from 1981 to 1986, described a nonoperative rate of 87% with only 23% of patients requiring a blood transfusion, averaging 22 cc/kg. Ten children required operative management, including splenectomy in three, partial splenectomy in one, splenorrhaphy in four. In two of the 10 cases, the bleeding had stopped at the time of exploration.

On the basis of these studies and our own experience, our current splenic trauma protocol includes: initial complete physical examination, assessment and resuscitation, acquisition of baseline blood tests including serum amylase, and, if stable, evaluation with abdominal CT scan. If the patient is unstable after initial fluid resuscitation, immediate exploration should be performed.

The stable patient with a CT documented splenic injury is admitted to the intensive care unit on the surgical service and placed at bed rest without oral intake. The child is monitored closely and serial hematocrit levels are obtained at least every four hours. If ongoing blood loss leads to hypotension, transfusion of up to 40 cc/kg of packed red blood cells would be allowed. If the patient is stable, transfusion would be administered only if the hemoglobin was below 8 to 9 gm/dL.

Operative indications include continued bleeding leading to hypotension (requiring more than 40 cc/kg of packed red blood cells) or associated abdominal injuries requiring exploration.

Nonoperative management requires inhouse surgical physicians 24 hours a day, seven days a week and an operating room facility prepared for a pediatric trauma patient on rapid notice.

It must be emphasized that patients managed by observation need constant monitoring and should demonstrate hemodynamic stability. Evidence of ongoing blood loss needs careful resuscitation and may require prompt la-

parotomy.

If an operation is required, complete mobilization of the spleen is performed, and a splenic salvage procedure should be attempted in hemodynamically stable patients. Numerous techniques of splenorrhaphy have been reported, including the use of topical hemostatic agents, simple or mattress sutures (with or without Teflon pledgets), suture with omental patch, absorbable suture "ladder" wrap, partial resection, splenic artery ligation and absorbable mesh wrap.[□] In addition, in cases that require total splenectomy, reimplantation of splenic fragments has been reported, although the ability of splenic tissue fragments to protect against postsplenectomy sepsis has been challenged in several reports.12

Total splenectomy should be performed only in the presence of exsanguinating hemorrhage or if repair would unduly prolong the procedure in a child with multiple injuries. Several encouraging clinical and experimental studies demonstrate normal splenic function after nonsurgical manage-

ment of splenic rupture.

Linne, et al, in a review of pediatric splenic injuries noted that children in the nonsurgical management groups had levels of immunoglobulin M comparable to controls and significantly higher levels than those children who underwent splenec-

Cooney, *et al*, noted superior bacterial clearance and antibody response to pneumococcal polysaccharide challenge in rats with healing splenic trauma when compared to splenectomized animals.¹⁴

Serial evaluation of the injured spleen by CT scan or scintigraphy following conservative management usually demonstrates gradual resolution of the traumatic defect site. Several series report healing within two weeks and complete resolution of the defect as early as one month after initial injury. Residual defects, however, have been noted as long as two years after injury. Complications after conservative management have been rare, with several large pediatric trauma centers reporting no adverse effects. Sands, *et al.*, however, described a 16-year-old boy who developed a splenic abscess 16 days after nonoperative management of a splenic injury.¹⁵

The Riley Hospital experience: Blunt splenic injuries

At the James Whitcomb Riley Hospital for Children, 48 children with CT or scintigraphic documented splenic injuries have been treated during the past 14 years. Management of these children has followed the trends of treatment of splenic trauma noted in other children's centers. Of the 26 children treated during the first 11 years, 18 were treated operatively and eight nonoperatively. Splenic salvage was accomplished with direct suture repair in three and hemisplenectomy in four. Eleven children required splenectomy.

Twenty-two patients have been managed during the past three years, and all have been treated nonoperatively. Each child was stabilized after initial resuscitation and observed in the pediatric intensive care unit with continuous monitoring and serial hematocrits. After 24 hours of complete stability (no transfusion requirement), the children were transferred to the ward. Diet is advanced during this period; however, strict bed rest is enforced for five to seven days after the mjury.

The child is released from the hospital seven to 10 days after the injury depending on the progress of any associated injuries. Activity, particularly contact sports, is limited for at least three months or longer depending on followup studies. Repeat scans (liver-spleen scintigraphy or CT) are usually obtained at two weeks and two months after the injury to follow resolution of the original defect. (Figures 1A, 1B and 1C). None of the children treated by observation required later surgical intervention. The mortality rate was 0%.

Blunt liver injury

The treatment of blunt liver injury in children is

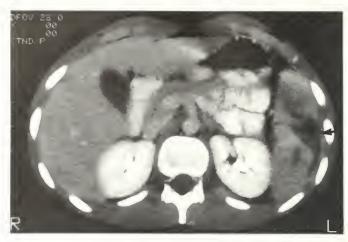


Figure 1A: CT scan demonstrating splenic fracture in a 14-year-old girl injured in a soccer game.



Figure 1B: CT scan six weeks after the original injury demonstrates small residual defect in spleen.



Figure 1C: CT scan three months after the injury demonstrates complete healing of the spleen.

somewhat more controversial than splenic trauma. Hepatic injuries with hemodynamic instability require urgent resuscitation and prompt surgical intervention. However, children with relatively stable vital signs and lesser transfusion requirements may respond to nonoperative measures. Several large series evaluating both adults and children noted that in up to 44% of cases of blunt hepatic injuries the bleeding had ceased and only drainage was required at the time of exploration. ^{16,17}

In 1983, Karp, et al, reported a series of 17 pediatric liver injuries evaluated by CT scan. One child required immediate laparotomy for an associated renal injury. Another child initially treated nonoperatively required exploration on the fourth post-injury day for increased transfusion requirement. Of the remaining 15 patients, 10 required blood transfusion (averaging 8.5 cc/kg) and one developed a subhepatic fluid collection that was observed. None required a laparotomy.

Several other pediatric trauma centers have reported success with nonoperative management of hepatic injuries. In addition, very few complications have been observed following nonoperative management. Bass, et al, however, reported a high morbidity in seven patients treated at the Children's Hospital National Medical Center including: blood transfusion of greater than 50% of total blood volume in four; prolonged ileus in one; sepsis in one; and suspected hemobilia in one.¹⁹ None of the seven patients required an operation.

The largest pediatric series was reported by Oldham, *et al*, describing 53 consecutive hepatic injuries, 49 of which were treated nonoperatively.²⁰ Serious complications developed in four, including one case of hemobilia 16 days after injury and three cases of bile peritonitis. The child with hemobilia was managed nonoperatively with complete resolution. The three children with bile peritonitis, however, required surgery.

These reports support a selective nonoperative approach to blunt liver injuries in children. In the past, a nonselective operative approach had been advocated because of concerns related to bleeding, biliary injury or associated hollow viscus injury. Oldham's report, however, demonstrates a low incidence of these problems and suggests that modification of the indications for surgical exploration is in order.

Routine laparotomy in every case leads to a large number of negative explorations with inherent risk of infection and late small bowel obstruction due to adhesions, which are probably unnecessary. Nonoperative treatment requires evaluation by CT scan to delineate the specific injury and the availability of pediatric ICU with personnel experienced in the care of pediatric surgical and trauma patients.

The availability of inhouse surgical house staff on a 24-hours a day, seven days a week basis is essential.

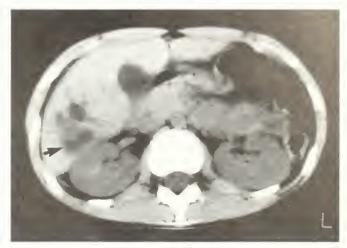


Figure 2A: CT scan demonstrating liver contusion in a 13-year-old girl injured in a motor vehicle accident.



Figure 2B: CT scan three weeks after the original injury. Note decreased size of defect.



Figure 2C: CT scan two and one-half months after the injury demonstrates nearly complete resolution of the original defect.

The child is admitted to the pediatric ICU on the pediatric surgical service with continual monitoring and serial blood counts for at least 48 hours. Transfusion requirement less than 40 cc/kg rarely requires surgical intervention. Blood replacement above this level or any evidence of hemodynamic instability mandates surgical exploration. This is normally apparent, however, within minutes to one or two hours following admission.

In stable patients, bed rest is continued for seven to 10 days and then limited activity is suggested for six weeks. A followup CT scan is obtained one week after injury and then again in six to eight weeks to follow the progress of healing. Contact sports are

avoided for six months.

The Riley Hospital experience: Blunt liver injuries

Eleven children with blunt liver injuries have been treated at Riley Hospital during the past three years. One required exploration for an associated renal injury, and one required early exploration for active bleeding from the liver.

The nine remaining children were stable after initial resuscitation and were successfully treated nonoperatively. All were observed in the intensive care unit for at least a 48-hour period. Diet and activity were advanced in a manner similar to children with splenic injuries.

All nine were discharged within 10 days of injury and followup CT scan showed eventual healing. (Figures 2A, 2B and 2C). There were no late sequelae.

Summary

These data indicate that most children with blunt injury to the liver and spleen can be treated conservatively. The fact that nonoperative management is a successful method of therapy limits the usefulness of DPL in most stable pediatric patients with abdominal trauma. Recovery of blood by DPL will neither influence the decision to operate nor yield information concerning which organ is injured.

The abdominal CT scan is the most sensitive diagnostic method. In patients with associated head trauma, the head CT and abdominal CT both can be obtained during the same visit to the radiology suite. DPL may be useful in the unstable patient to be sure the abdomen is the site of bleeding before starting an emergency laparotomy and occasionally, in more stable patients with ongoing abdominal pain, to rule out an associated bowel injury with perforation (e.g., recovery of bilious or feculant material).

Insight into the contemporary management of splenic and liver injuries in children is important. In the 1980s, a laparotomy safely can be avoided in many cases with reduction of patient morbidity, length of hospital stay and cost of hospitalization.

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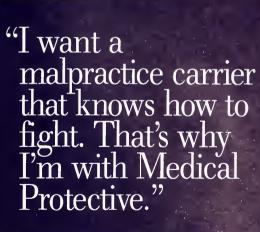
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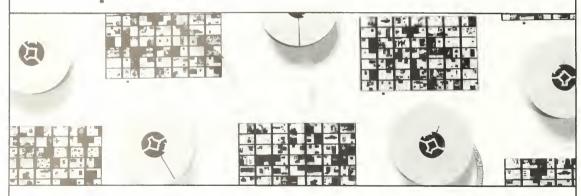
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cme quiz

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Splenic and liver trauma in children

- 1. The leading cause of death between ages 1 and 14 is:
 - a. congenital anomalies
 - b. cancer
 - c. trauma
- 2. Approximately what percentage of admissions to children's hospitals are related to trauma?
 - a. 7%
 - b. 12%
 - c. 20%
 - d. 25%
- 3. Blunt trauma accounts for what percentage of all pediatric abdominal injuries?
 - a. 50%
 - b. 75%
 - c. 87% d. 95%
- 4. If a child with documented blunt trauma of the spleen is hemodynamically stable, transfusion is
 - allowed up to:
 - a. 10 cc/kg b. 20 cc/kg
 - c. 40 cc/kg
 - d. 60 cc/kg
 - e. 80 cc/kg

- 5. After initial evaluation with physical examination and plain abdominal films, the diagnostic procedure of choice in a hemodynamically stable child with a significant blunt abdominal injury is:
 - a. liver spleen scan
 - b. CT scan
 - c. peritoneal lavage
- 6. Operative indications in a child with a blunt splenic injury include all of the following except:
 - a. hypotension from ongoing blood lóss
 - b. transfusion requirement of 25 cc/kg
 - c. transfusion requirement of 45 cc/kg
 - d. associated intra-abdominal in jury not amenable to nonoperative therapy
- 7. Several reports documented normal splenic function after nonoperative management of splenic injuries.
 - a. true
 - b. false
- 8. If all patients with blunt hepatic

- injuries undergo immediate exploration, approximately what per-(i.e., no operative repair)? centage will only require drainage
- b. 35% c. 45%
- d. 55%
- 9. Requirements for continued nonoperative management of a child with a blunt liver injury include all of the following except:
 - a. hemodynamic stability after initial resuscitation
 - b. ICU with personnel experienced in pediatric care
 - c. 24 hours a day operating room availability
 - d. transfusion requirement less than 40 cc/kg
 - e. CT demonstrating no intraperitoneal fluid
- 10. Complications after nonoperative management of hepatic injuries in
 - a. hemobilia
 - b. hepatic abscess
 - c. bile peritonitis
 - d. all of the above

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Answers (circle one)

- 1. a b c
- 2. abcd
- 3. abcd 4. abcde
- 5. a b c
- 6. abcd
- 7. a b
- 8. abcd
- 9. abcde
- 10. abcd

Psychological, social and physical interventions for cancer pain

Wayne O. Evans, Ph.D. Indianapolis

Editor's note: This is the last in a series of six articles on cancer pain.

A physician need not be alone in attempting to deal with a patient's suffering. Psychologists, nurses, physical therapists, social workers, occupational therapists and chaplains can make significant contributions to the patient's comfort. As Twycross and Lack point out, "Pain may remain intractable if mental and social factors are ignored."

Any factors that contribute to anger, anxiety or depression will intensify the suffering due to pain. A wise physician will utilize other specialists in a coordinated approach to pain management. Indeed, the need for a coordinated, multidisciplinary effort for pain management is now endorsed by the National Institutes of Health.²

Psychological interventions

First, the patient must be evaluated to determine if a diagnosable mental or emotional disorder exists. It is estimated that 25% of cancer patients will have such a condition. The psychological datus of 126 consecutive patients coming to an oncology outpatient clinic was determined using a

brief, self-report inventory. One in three patients reported moderate to high levels of depression and anxiety.⁴ At one established cancer pain service, a brief symptom inventory and an interview by a psychologist are part of every patient's initial evaluation. If diagnosable emotional or mental disorders are found, appropriate pharmacological and psychological therapy may be initiated.

Any factors that contribute to anger, anxiety or depression will intensify the suffering due to pain.

Relaxation procedures are aimed at reducing muscular tension, autonomic hyperarousal and anxious and angry feelings and cognitions. They are designed to reduce the distress that compounds the suffering of pain. Also, when patients learn they can reduce their level of distress, it adds to their sense of personal control.⁶

Hypnosis not only can enhance relaxation but can cause the reinterpretation of sensations. In this way, a "stinging" pain could be converted to a "tingling" pain. In some cases, full anesthesia can be induced. Hypnosis is useful for painful procedures of short duration such as bone marrow aspiration. Patients can be taught self-hypnosis so they can use it whenever they wish. Patients with metastatic breast cancer who were taught self-hypnosis reported less pain than a control group.

Systematic desensitization, cognitive coping and modification and stress management are other psychological methods for reducing pain and suffering.¹⁰

Social interventions

The cancer patient and his or her family often face multiple social problems. The anger, anxiety and demoralization caused by these problems will contribute to the patient's suffering. These will escalate as the patient approaches the terminal phase of his illness, just when pain tends to be the greatest. A social worker can be helpful in planning activities ranging from hospital discharge to family therapy.

Terminal illness can be a time of spiritual upheaval as the patient weighs the value of his life. This can contribute to his suffering. The aid of a clergyman can help mitigate this source of pain.¹¹

Occupational therapy has a goal of aiding patients in achieving the

highest possible level of functional activity and independence. Their expertise includes adaptive devices, energy conservation and diversion and meaningful activities. All of these can reduce suffering. "People suffer less if they have something better to do.¹²"

The need for constant reassessment and continuity of care is vital for adequate pain management. A nurse often is the best qualified person for this task. Educating the patient and family, reassessing previous pain, discovering new pain, coordinating health care professionals and serving as a link between the patient and the physician are all important nursing functions.

The nurse usually will be the person who administers the pain treatments to hospitalized patients. Because of the extent of the contact with the patient, the nurse often will be in the best position to understand the patient's needs and to suggest alternative pain management approaches to the physician.¹³

Physical interventions

Physical therapy includes numerous methods to relieve pain. Heat, cold, electrical stimulation, massage, trigger-point therapy, traction, mobilization and exercise can reduce pain and aid in maintaining strength and endurance. It is a natural reflex to tense skeletal muscles in the presence of pain. The resulting splinting and guarding will intensify and perpetuate pain. Many physical therapy techniques are aimed at re-

ducing muscular hypertonicity.

Ice massage is another useful physical method of pain reduction. 15 It has been shown to be superior to both heat and ice packs. 16 First, the patient is appropriately draped with towels to absorb the water from the melting ice. A block of ice, about four by six inches in size, is applied directly to the skin, using a circular motion over the painful area. The patient first will experience a sensation of cold. This sensation will turn into a burning feeling. Next, an aching sensation will be felt. Finally, the area will become

This procedure must be continued until the patient feels numbness, usually within five or 10 minutes. The more the patient can relax during the procedure, the longer the pain relief will last. Ice massage can be self-administered, but it is more pleasant to have it administered by someone else.

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Indianapolis cholesterol screening 1987:

Does mass screening accomplish its goal?

Judy Z. Miller, Ph.D. Bernard E. Statland, M.D. Brandon Roger, M.S.W. Charles Suther Jeffrey L. Furst, M.B.A. Naomi S. Fineberg, Ph.D. Indianapolis

The Lipid Research Clinics Coronary Primary Prevention Trial (LRC-CPPT) was the first large scale trial to demonstrate that reduction in coronary heart disease incidence was related to cholesterol lowering. Larlier studies have suffered from problems related to study design or definition of endpoints that resulted in equivocal findings.

After the publication of the LRC-CPPT results, a National Institutes of Health Consensus Development Conference issued a statement urging the identification and treatment for adults at moderate and high risk for the development of coronary heart disease.⁴ As a result, there has been considerable public attention focused on the cholesterol-heart disease link.

Recently, the technology for the analytic determination of plasma cholesterol has evolved so population screening can be done safely, accurately and quickly. The Greater Indianapolis Cholesterol Screening was undertaken as a

Abstract

To evaluate the impact of large scale population screening for elevated total cholesterol, a city-wide event was scheduled in Indianapolis during nine days in February 1987. Altogether, 29,954 individuals were screened, and more than 32% were found to be at moderate or high risk using the classification recommended by the National Institutes of Health at the time of the screening for heart disease on the basis of their total plasma cholesterol concentrations.

Although larger numbers of females and whites volunteered to be screened, the screened population represented a broad range of age and education levels. Results of a followup questionnaire returned by 18% of those at moderate of high risk revealed that after receipt of an elevated cholesterol result, 67% of the respondents scheduled a physician visit. The majority of those not doing so (53%) contacted their physician for other reasons or by telephone.

Results of the followup indicate that screened subjects responded appropriately to the results received. The results of this project indicate that mass screening is only one tool to successfully identify individuals at risk. Given the biases present in the screened population, other strategies should be used to identify at-risk members of population groups unlikely to participate in similar screening events.

model project to investigate population response and the potential effectiveness of a large scale cholesterol screening to identify individuals at risk and refer them to the appropriate health care provider.

Methods

The cholesterol screening was held during nine days in February 1987. Two weekends and the weekdays between were chosen because of the locations of the screening sites. The sites were

four suburban shopping malls and a central downtown location in Indianapolis. In this way, geographic coverage of the city and adjoining counties was possible.

A physician education program was conducted two weeks before the event. During the following week, the news media presented daily slots regarding cholesterol and heart disease. The event received extensive coverage in the print, radio and television media as public service announcements and news stories.

Participants arriving at the screening sites were asked to complete a brief form that included contact information and permission to send elevated results to their personal physicians. All subjects completed Informed Consent and Waiver of Liability forms before participating. Blood for cholesterol determinations was obtained by licensed medical personnel using fingersticks.

Cholesterol results for the individual were plotted on a chart according to NIH Conference guidelines.4 Subjects found to be at moderate and high risk completed mailing information to their physicians and were instructed to contact their physicians independently. Individuals without physicians were referred to a clinic or local physician referral network that previously agreed to accept such patients. Subjects within the recommended range for their age were so informed. Staffing at the screening sites was done primarily by volunteers supervised by technical personnel from the screening sponsors.

Cholesterol determination

Cholesterol was measured with the Reflotron® whole blood dry chemistry analyzer. The equipment at each site was loaned by Boehringer Mannheim Diagnostics of Indianapolis. A magnetic code on the back of the test strip automatically calibrates the machine and corrects for lot variation in test tabs. Because the glass fiber material separates the erythrocytes from the whole blood, the plasma flows into a reservoir at the bottom of the tab, and centrifugation is not required. A color reaction is produced by the reaction of reagents in the test strip. The calculated cholesterol

 Table 1

 Demographic description of the screened population

<u>Variable</u>	Actual number	Percent of population
Sex		
Male	13,064	43.6
Female	16,826	56.2
Race		
White	28,559	95.3
Black	876	2.9
Other	194	0.7
Education		
Grade school	1,794	6
High school	15,804	52.8
Some college	11,408	39.3

value is shown on a LED display on a photometer, which compares the intensity of a light source from that reflected from the test strip. This technology is well-suited to the large scale screening undertaken in this study. Recent independent evaluation of this methodology indicated a precision ranging from a coefficient of variation (CV) of 2.8% to 5.6% for these instruments and a CV of 4.5% in duplicate analyses.^{5,6}

Followup

Within three weeks of the screening, all physicians with patients at moderate and high risk, from whom written permission had been received, were mailed copies of the patients' results and an explanation of the screening procedure.

A mailing list of all subjects at moderate and high risk was generated and several months after the screening, a letter was sent reminding them to contact their physician if they had not already done so. Subjects also were asked to return an attached questionnaire at this time. The questions were designed to determine whether or not they had contacted a physician and what advice/treatment had been recommended.

Data analysis

Basic statistical analyses, database management, t-tests and analysis of covariance were accomplished by SPSSX on the DEC 2060 computer system.⁷ Fisher's Exact Test statistics were done on 2 x 2 tables.⁸

Results

The original goal was to screen 30,000 residents. Cholesterol results were available for a total of 29,954 individuals. The demographic breakdown of this population is shown in *Table 1*. Since response to these questions was voluntary, a number of people did not answer every question. As a result, the totals and percentages

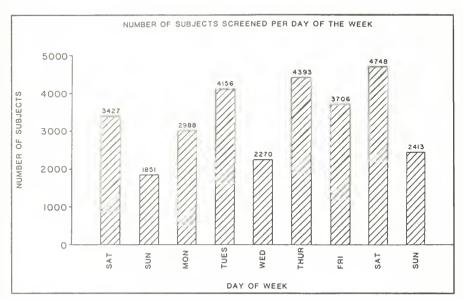


Figure 1: Number of subjects screened by day of week. Screening hours were 11 a.m. to 8 p.m. Monday through Saturday and noon to 5 p.m. Sunday. The downtown location closed at 7 p.m. on weekdays.

in each group varied. As can be seen, more women than men volunteered, and the majority of those screened were white. Based on population projections from the Indiana State Board of Health, we estimated that 15.7% of the population of the geographic area covered by the screening was non-white. In these projections, approximately 52% of the population is female. When asked whether they had been told they had high cholesterol in the past, 15.9% said ves.

Figure 1 shows the number of screenees by day of the event. On Sundays, the stations were open for only five hours, as opposed to nine hours on other days. Interestingly, more people were screened on the last weekend (N=7,161) than on the first weekend (N=5,278). This suggests there was no decrease in population interest during the screening activity. The limiting factor at most sites was staffing, with sub-

jects often waiting more than one hour. Relatively speaking, the fewest number of people were processed Wednesday.

The cholesterol results for the screenees were classified into the risk group for the respective age

using the NIH panel recommendations⁴ that were in effect at the time of the screening. These numbers are shown in *Table 2*. It can be seen that 32.3% of the screened population was classified at moderate to high risk, an equal number were in the average risk group, and it has recently been recommended that these individuals be more closely monitored. Only one-third of the screenees were classified within the recommended range for their age, requiring no further intervention.

Figure 2 shows the age distribution of the screened population. The largest number screened was in the 50 to 60 year age range. The average age of the screened population was 51.7 ± 15.4 (SD) years for the whites, 49.9 ± 16.2 for blacks and 40.7 ± 14.6 for other race groups. This age distribution indicates that the segment of population screened was in the age range likely to benefit from intervention on cardiovascular disease risk factors.

One-way analyses of variance of the cholesterol results indicated

Table 2

Breakdown of cholesterol results by risk classification

Classification	Number	Percent
Normal	10,029	33.5
Average risk ¹	10,280	34.3
Moderate risk ²	4,354	14.5
High risk ³	5,291	17.7

 $^{^{\}rm I}$ This group is composed of individuals older than 40 with cholesterol results > 200 mg/dL, but less than 240 mg/dL.

² This group was defined differently according to age. For individuals ages 20 to 29, cholesterol was 200 to 220 mg/dL; ages 30 to 39, it was 220 to 240 mg/dL; individuals older than 40, the result must be 240 to 260 mg/dL.

High risk also varied by age. For individuals ages 20 to 29, total cholesterol > 220 mg/dL; ages 30 to 39, results > 240 mg/dL; and individuals age 40 and older, results > 260 mg/dL.

significant effects of race (p < 0.005; other < black < white), sex (p < 0.001; men < women), and education (p < 0.001; college < grade school < high school). Some of these results could have been attributed to age differences in the screened population, which followed a similar pattern. Therefore, analyses of covariance were performed. A total of 28,760 individuals had all the information necessary for these analyses. The results of these covariance analyses showed that in the screened population age (p < 0.001), sex (p < 0.001) and education (p < 0.001) effects were significant as was the sex by education interaction (p < 0.001).

As expected, older people had higher total cholesterol concentrations, but screened men had lower levels than women. Interestingly, the education effect was opposite in the two sexes. In men, those with a grade school education had lower levels than other men, while in women, those reporting some college education had the

lowest levels.

Subjects were asked at the beginning of the screening process to complete the name and address of their personal physician in the event that their cholesterol was elevated. Overall, 85% reported having a physician. The group of subjects with a physician was significantly older (52.5 \pm 15.3 [SD] vs. 46.1 \pm 15.5 years; p < 0.001) and had higher average cholesterol levels (220 \pm 43 vs. 214 \pm 43 mg/dL; p < 0.001) than subjects without physicians.

A total of 1,742 subjects returned the mailed questionnaires, 33 of which had the identification numbers removed by the subject and could not be linked with the original cholesterol screening results. Response rates differed by race and sex as shown in *Table 3*. Women were more likely to respond than men (p < 0.001) and whites more than blacks (p < 0.001). Although the response rate was low because there was no followup reminder to return the questionnaire, the

analyses yielded several interesting results.

Of the total responding to the questionnaire, 67% reported scheduling an appointment with a physician regarding their cholesterol result. Of those who gave a reason for not going to the doctor, 53.1% reported other physician contact, either for another reason such as regular check-up (40.3%) or by phone contact (12.8%). Of the total, 13.1% reported that their physicians did a test that did not confirm the elevated cholesterol. In response to the question "Did your doctor tell you to go on a diet to lower your cholesterol?", 57.5% said yes (24.5% did not respond). Of the respondents, only 11.5% of the population said physicians also prescribed medications.

Two questions were designed to assess the perceived

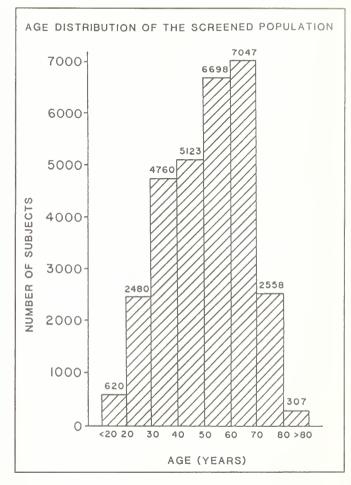


Figure 2: Age distribution of the screened population. All subjects younger than 20 years comprise the left tail while those older than 80 years also are grouped together on the right.

effectiveness of the screening program. Overall, 91.2% of the respondents felt the program was helpful and only 2.4% said not; the remainder did not respond or did not know. In response to the question "Did the results you got at the screening alarm you?", 43.7% said "yes" and 36.6% said "a little."

Discussion

In the United States, almost 50% of all deaths in 1983 (989,400) were attributable to cardiovascular disease. Of these, 547,100 were directly attributable to coronary heart disease. Current estimates put the number of Americans alive today with coronary heart disease (his-

tory of heart attack and/or angina) at more than five million. Since coronary heart disease alone costs the United States more than \$60 billion per year, the economic

impact is staggering. The major risk factors for heart disease in the United States have been investigated in epidemiologic studies during the last 30 vears. 10-14 Major risk factors can be separated into those that can be modified, such as cigarette smoking, obesity, high blood pressure and elevated serum cholesterol. The health benefit of intervention on the first three has been demonstrated and is well accepted by the medical community. Before publication of the LRC-CPPT results,1,2 studies of lipid lowering had not vielded conclusive evidence that intervention would be beneficial.3 Even though longitudinal epidemiologic studies clearly established that elevated total cholesterol and low density lipoproteins were significant risk factors for coronary heart disease, 10-15 they could not prove that reduction of these levels would be beneficial for the population at risk.

Following the publication of the LRC-CPPT results, there have been several statements issued in the United States^{4,16} and Europe¹⁷ regarding strategies for population risk reduction. All of these encourage the identification of atrisk adults but are reluctant to endorse large scale screenings until sufficient supporting data are available. The purpose of the project was to undertake a community screening while requesting information from screenees to evaluate its effectiveness in identifying these at-risk individuals and referring them to appropriate health care providers.

Table 3

Response to mailed followup questionnaire (includes subjects with all identifying information)

Group Black	Responders	Nonresponders
Men Women	5 (5%) 22 (12%)	99 (95%) 162 (88%)
White Men Women	461 (14%) 1,119 (19%)	2,931 (86%) 4,658 (81%)

On the whole, this project was successful in screening 99.8% of the projected number of subjects. There are obvious biases in the screened population with an excess of whites and women volunteering. The majority of subjects reported 12 years or less of formal schooling, however, and the majority of those screened were in the 45 to 65 year age range. Of greater interest are the actual numbers of subjects at average or greater risk on the basis of total cholesterol. Only one-third of the screened population could be classified as at normal or low risk, yet only 16% reported that they had previously been told their cholesterol was elevated.

The NIH guidelines were defined on the basis of population studies in order that 25% of the population would be at moderate and high risk. The fact that more than 32% of this population fell in these classifications suggests an additional volunteer bias in the screened population. Taken together, these results suggest that the message was indeed reaching the target population, and the project was identifying the appropriate individuals.

The volunteer bias present in the initial screened population was compounded in the response to the mailed questionnaire. Nevertheless, it would appear that atrisk people sought appropriate resources following receipt of elevated results. While 13% reported that their physicians did not confirm the cholesterol elevation, comments suggest that this was more often due to interpretation of risk levels than a lack of concordance in cholesterol measurement.

While not totally representative, the results of the followup suggest that the screenees were able to deal appropriately with the information given them at the screening site. Only five individuals indicated that they were unaware they were at risk until receipt of the letter. During the weeks immediately after the event, the local chapter of the American Heart Association logged in excess of 900 requests for cholesterol, nutrition and diet information. This suggests increased public awareness regarding the cholesterolheart disease link.

The results of this project suggest that mass population screen-

ing is one tool to identify individuals at elevated risk for developing coronary heart disease on the basis of their cholesterol levels.

However, because of the biases in the screened population, it is obvious that additional strategies are needed to identify at-risk individuals unlikely to volunteer for screening in this environment.

The third annual Greater Indianapolis Cholesterol Screening was held last February. With the sponsorship of local hospitals, 10 screening sites were staffed for four days. A total of 11,803 people were screened, and only 37% of these had total cholesterol levels below 200.

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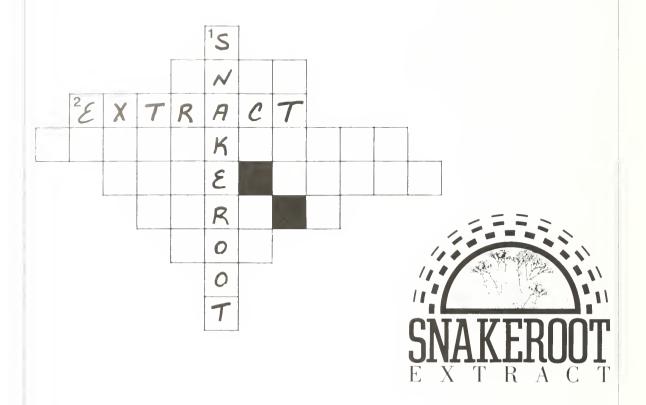
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ACROSS:

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■drug names

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Alpha/beta adrenergic

blocking agent

Brand name: Generic name: Trandate, Glaxo Labetalol HCL

Dosage forms:

Tablets

VIVOX Antibiotic

Category: Brand name:

Vivox, Squibb Generic name: Doxycycline Dosage forms: Capsules

TRANDATE HCT Antihypertensive

Trandate HCT, Glavo (Labetalol-Hydrochlorthiazide)

Tablets

VIVONEX

Enteral nutritional therapy Vivonex, Norwich Eaton

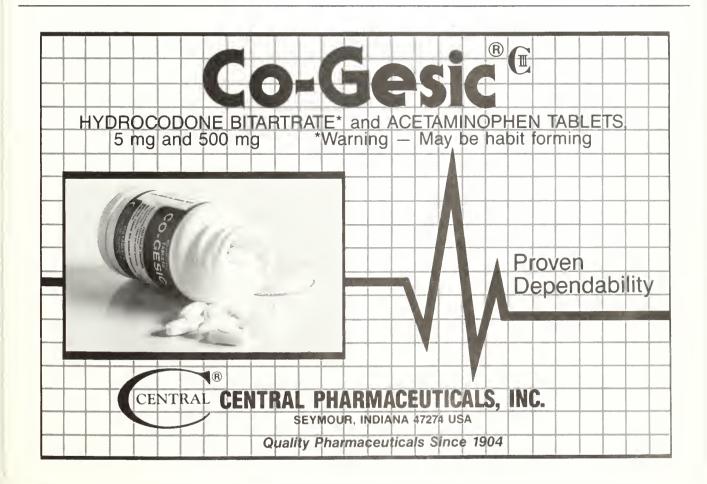
(combination drug)

Powder

Benjamin Teplitsky, R. Ph. Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions.

Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such lookalike and sound-alike drug names can reduce potential errors.



The psychological crisis of reproductive failure

Diane B. Brashear, Ph.D. Indianapolis

Editor's note: This is the first in a series of two articles on infertility.

Reasons for wanting a child are complex. Pregnancy is a confirming experience for men and women. For a woman, having a child is an important component to her achievement as a female.

Pregnancy may hold symbolic meaning. For some women, having a child may appear to be the only way the woman can achieve full adult status. Angela Barron McBride says "for a woman to be considered fully grown up in

much of American society, she has to have children. If she wants people to listen to her as a responsible person, she has to show her credentials, Tom and Billy.

Wendy and so forth.1"

Men and women confronted with infertility suffer injuries at many levels in their personalities, particularly self-esteem. Unresolved psychological conflicts may be activated, and the resolution of these problems often depends on their psychological strength and vulnerability. One important reaction to the infertility problem is not only the loss of control over one's life but indeed over one's body. A perception that she is defective can be the basis of many symptoms for the infertile patient. It is not uncommon for an individual to experience loss of sexual desire or the capacity for sexual

response. This is compounded by the necessity for sexual intercourse at specified times.

Depression from a sense of loss also may be experienced. Each menstrual cycle brings hope and anticipation often intensified by treatment strategies such as drugs, which may prolong certain phases within the menstrual cycle, thus extending hope. When menstruation occurs, the woman may experience acute and deep depression. An infertile partner often fears the spouse will abandon him or her for a fertile partner. In fact, some couples may divorce as a solution to the fertility problem. Many view themselves as unattractive and abnormal. For them, a sense

play a part. Some patients view their infertility as a punishment for sins or unworthiness. This eventually can be internalized and clinical depression results. At some point, patients may not be able to bear recriminations, and their anger becomes directed outward to husbands, physicians, family members and other fertile women. There may be rivalry feelings with siblings and best friends.

Male reactions to infertility may differ from their spouses' reactions. Kraft *et al* described psychological experiences of childless couples who apply to adoption agencies.³ Men had difficulty discussing the emotional pain of

infertility. This contrasted with Mahlstedt's findings, which suggest that women talk a great deal with their husbands, and the hus-

bands feel powerless to take away the pain.⁴ This sometimes leads to husbands who stop listening. Men also associate infertility with their masculinity or sexual iden-

tity.

In one study interviewing 30 women with tubal damage and their partners, symptoms of depression, guilt and isolation were noted. While the women generally experience more depressive symptoms than men, the men often denied emotional reactions. Feelings of guilt were common among the women. Patients also perceived relatives and friends as not giving genuine support. Pregnant women and other people's

Men and women confronted with infertility suffer injuries at many levels in their personalities, particularly self-esteem.

of self-worth is based on the ability to produce a baby. Indeed, some women may differentiate between the ability to become pregnant and the ability to have a child.

Feelings of defectiveness may be compounded by earlier reproductive circumstances such as a previous pregnancy or an elective abortion. If the infertility is associated with venereal disease, guilt can be substantial. DeBrovner and Shubin-Stein describe the great lengths patients will use by referring to some past event to describe or explain their infertility. Often, guilt about masturbation, sexual fantasies and sexual desires

children served as stimuli to negative feelings. It was suggested from this study that couples require supportive counseling as their medical treatment continues.

Ten percent to 20% of couples desiring pregnancy cannot conceive for unexplained reasons. It is commonly believed that unexplained infertility can be corrected if the couple adopts and then they conceive. This myth is not confirmed in literature. None the less, one would be remiss not to consider the effect of the individual's emotional set on the ability to conceive.

Do anxiety and other symptoms of stress affect the capacity to become pregnant? Serious methodological problems in many studies give an unclear picture to this complex problem. Earlier writings focused on women and assumed a psychoanalytic, traditional male viewpoint.

Does psychotherapy produce a more positive outcome? Can this method take credit for the resolution of the infertility problem? In a comprehensive literature review, Pantesco states that non-organic infertility still remains a mystery

to some degree.6

Motivation for childbearing and motherhood may be a factor that contributes to unexplained infertility. Sarrel and DeCherney followed couples with histories of secondary infertility that had no detectable organic etiology.7 One group saw a psychotherapist for an interview to assess whether or not there were previously unrecognized psychosexual problems and conflicts. The second group did not see a psychotherapist. The interview included both members of the couple and the infertility specialist.

The psychiatric interview did uncover psychological conflicts. The most problematic psychological conflict was between the woman and her mother, in which there was some confusion with psychological boundaries. Sexual problems, marital discord and fear of pregnancy were other issues warranting clarification and atten-

After an 18-month followup, six of the 10 women in the couples who were interviewed had become pregnant, and one woman of the nine in the control group had become pregnant. It still is difficult to determine whether or not this had a cause and effect result, particularly with the impact of one single interview.

The authors argue that the interview had a therapeutic effect. Certainly, there may be questions of whether just additional time or other factors could explain these

The impact on the marriage

The difficulty a couple may have in handling their feelings about infertility certainly will be affected by the strength of their marriage before the infertility crisis. Since many couples encounter infertility early in their married lives, when few major problems have occurred, it is suggested that they may not have developed the skills necessary for coping with a complex problem.4

Infertile couples often are isolated from each other and may have their own unique or idiosyncratic ways of dealing with infertility. Men and women may respond differently. A man's silence, Mahlstedt notes, sometimes confuses and upsets the woman because she interprets the silence as his lack of involvement.

Lalos, et al, noted that women generally manifested more depressive symptoms than men, who

suppressed or denied emotional feelings.⁵ The negative impact on marriages often is reflected in the fear of abandonment by the infertile partner or in the fear that the fertile spouse will remain in the relationship but would be resentful. It is not uncommon for an infertile spouse to suggest divorce as a solution for the fertile part-

Certainly, the sexual performance pressure placed on the male to ejaculate at particular times for the purposes of impregnation has created serious problems between partners. On the other hand, the marital bond can be strengthened as a result of infertility, if there are empathy and shared feelings.3

Some specific problems develop and affect the marriage. In addition to sexual dysfunction, the conflict about financial resources. for infertility treatment can be a major source of conflict. This depends on the level of commitment each partner has toward the resolution of infertility. The expenses of private adoption and surrogate parenting are astronomical. Many procedures used in treatment may or may not be paid by medical insurance. In addition to emotional energies, the infertility problem can deplete

financial resources.

Some couples find they have value conflicts about the methods used to resolve infertility. For example, artificial insemination (AID) has been used extensively as a possible solution. The loss of the husband's genetic contribution and the genetic continuity may be important factors. Many physicians mix donor semen with the husband's semen so there may be physically present the opportunity for the child to be from the husband's biology. After AID is successful, exaggerated fears about

how the baby will look and whether there will be a resemblance may develop.

For some women, the choice of adoption is denied by the husband who is steadfast in maintaining genetic control. The infertile woman may experience tremendous pressure from her husband's need to resolve the situation.

Because men are rewarded for being problem solvers in many aspects of their lives, they may overextend their resources and focus on adoption or surrogate parenting because they feel compelled to find a solution.

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Informed consent to HIV antibody testing:

Toward a standard of professional practice_

Judith D. Johnson, M.D. Kathryn M. Connell, M.P.H. Indianapolis

Editor's note: This is the second in a monthly series of three AIDS articles

Since July 1, 1988, Indiana law has required a physician to obtain a patient's consent before ordering the performance of a test for HIV antibody. Pertinent parts of Section 3 of Senate Enrolled Act 9 (P.L. 123-1988) read as follows:

"... (a) Except as provided in subsection (b), a person may not perform a screening or confirmatory test for the antibody or antigen to the human immunodeficiency virus (HIV) without the consent of the individual to be tested or a representative as authorized under IC 16-8-12. A physician ordering the test or the physician's authorized representative shall document whether or not the individual has consented.

(b) The test for the antibody or antigen to HIV may be performed if one (1) of the following conditions exists:

(1) It ordered by a physician who has obtained a health care consent under IC 16-8-12 or an implied consent under emergency circumstances, and the test is medically necessary to diagnose or treat the patient's condition."

Interpreting Indiana's law
While the term "informed" con-

sent is not used, the logical and legal concept behind the process of giving consent is that a patient has been given the opportunity to compare the risks and benefits of undergoing or avoiding a specific procedure. Such a reasoned comparison cannot be made unless relevant information is disclosed to the patient. A general or "blanket" consent signed on admission to a hospital may be legally invalid in cases of injury, unless material risk information also was disclosed and the patient was given an opportunity to refuse the proposed procedure.1 Moreover, the contractual relationship between a physician and patient seen in an outpatient setting does not imply consent for all procedures.

Given such considerations, Indiana's law may be interpreted to mean that, except in emergency circumstances, a physician must obtain a specific informed consent for HIV testing. A separate consent form does not appear to be required; a careful note in the medical record is probably sufficient. Use of a general consent is stated as an exception and is sufficient only when a reasonable case can be made that the test is medically necessary to diagnose or treat the patient's condition.

What guidelines should be followed in making an informed consent disclosure? A physician should disclose all risks that are material to the patient's decision, based on either the severity of the risk, the likelihood of its occurring

or both. Risks that the physician believes trivial or unlikely may nevertheless contribute to patient decision-making when taken together, and should therefore also be disclosed.² Physicians can only disclose risks of which they are aware, but they have a duty to be informed.³

Risks of HIV testing

Performing a test for HIV antibody involves negligible medical risk to the patient. HIV testing may be viewed as similar to a broad range of standard tests involving venipuncture: Informed consent is not usual for these assays. What then are the risks of HIV testing that Indiana patients have been given the right to weigh? At a major Midwest teaching hospital, the form for patient consent to HIV testing includes this language:

"... these results have the potential for being misinterpreted, particularly by non-medical personnel, as indicating the presence of AIDS or as indicating membership in socially stigmatized groups, such as homosexual men or intravenous drug users. Therefore, the recorded results of this test have a potential for social harm or abuse in the form of denial of insurance. employment, etc. ... I understand that the results of this test will be recorded in my medical record and therefore their confidentiality cannot be absolutely guaranteed ... I understand that this test is voluntary and acknowledge that

there was no element of force, fraud, deceit, duress or other forms of coercion involved in my deciding to have this test performed.4"

In the view of this institution. there are clear psychosocial risks to HIV testing, stemming in part from the difficulty of maintaining patient confidentiality in a modern hospital. The risk of coercion also is stated. Recent reports on physician attitudes^{5,6,7,8} as well as social attitudes9 toward AIDS and AIDS patients suggest that the hospital's view may not be exaggerated. While it can be argued that the wording of this particular disclosure is excessively alarming, the general point is one that has been made elsewhere: HIV testing carries significant non-medical risks and may only be utilized when the benefit to the patient is clear. 10 Benefit to the patient must be clearly distinguished from benefit to the physician or other health care providers.

While individual and institutional needs vary, basic information for informed consent should include: 1) basic facts about AIDS and HIV infection; 2) explanations about the meaning of positive, negative and indeterminate tests; 3) information about the potential infectiousness of people with positive tests; 4) the fact that HIV seropositive people, with few exceptions, will be reported by name to the Indiana State Board of Health; 5) the fact that HIV seropositive people are obligated to notify their sexual and needle sharing partners; 6) there may be unpleasant emotional consequences of a positive HIV test; 7)

there may be social, occupational or insurance consequences if the results of a positive HIV test become known; and 8) confidentiality of test results is required legally but may be difficult to maintain.

Need for the law

Laws governing medical practice often are made when professional practice standards are inadequate to protect patients from harm. The fact that an informed consent law was considered necessary in Indiana implies that there exists here, as elsewhere, a

documented in their medical records, and another 44% had no documentation of consent or counseling. In the entire patient group, only 3% had signed a separate consent. There were significant differences between specialties; 84% of the surgical patient charts in the sample and 34% of patient charts on the medical service contained no note in reference to use of the test. Overall, only 10% of the tests were judged fully appropriate. In several cases physicians recorded diagnoses of "AIDS" with a single positive antibody test, and there

The fact that an informed consent law was considered necessary in Indiana implies that there exists here, as elsewhere, a potential for HIV testing practices that may harm patients.

potential for HIV testing practices that may harm patients. We do not yet have adequate information on how Indiana physicians and hospitals are implementing this law. There is, however, anecdotal evidence that a standard of practice has not yet emerged to which physicians and other providers can be expected to adhere.

Experience documented in other states suggests a fluid situation regarding standards of practice in HIV testing. At a hospital in Minnesota, 275 patients were tested for HIV antibody, of which 9% proved seropositive. However, 44% had no recognized risk factor

was one instance of mislabelling of a specimen, which resulted in a seronegative patient being identified as seropositive.¹¹

In other studies, similar problems were found in Veterans Administration hospitals¹² and hospitals with infectious disease fellowship programs.¹³

Implementation issues

What situations create a medical necessity to test without a specific informed consent? As a practical matter, positive HIV serologies are not necessary to diagnose or treat most AIDS-related infections or cancers. The AIDS case defini-

tion of the Centers for Disease Control allows for presumptive diagnosis based on other medical evidence in situations in which HIV antibody test results have not been obtained, and does not require HIV testing for the majority of AIDS diagnoses.¹⁴

In certain pediatric cases, or in cases of dementia or wasting, where HIV status is necessary to confirm the diagnosis, testing may be considered medically necessary. In addition, most physicians would require positive HIV tests before prescribing zidovudine (AZT) or prophylactic aerosolized pentamidine to relatively asymptomatic patients.

Lacking "medical necessity," why would a physician test for HIV antibody without obtaining informed consent? First, physicians are accustomed to obtaining blood work without informed consent and may resent having to make an exception to their usual practice. The rationale for requiring informed consent already has been discussed and will not be reiterated. Next, the required disclosure takes time. The law does allow a physician to delegate the disclosure, providing the physician is willing to assume responsibility for his/her representative's work.

A more serious issue is the physician's concern that the patient will refuse testing. While the Centers for Disease Control have recommended HIV testing for patients with one or more risk factors,¹⁵ patients who admit to high risk retain the right to refuse testing. The concept of informed consent includes the right of a patient to make a decision that the

physician considers medically unwise.

Since acute treatment is rarely the issue, why are physicians reluctant to risk refusal? Some physicians, as well as other health care workers, believe not knowing a patient's HIV serostatus exposes them to unacceptable levels of personal risk in treating the patient. In fact, while the risk of occupational acquisition of HIV is not zero, it is very small.

The concept of informed consent includes the right of a patient to make a decision that the physician considers medically unwise.

A prospective study by the Centers for Disease Control showed a seroconversion rate of .42% per exposure for health care workers who had received percutaneous exposure to blood of known HIV seropositive patients.¹⁶ It is estimated that the similar rate for hepatitis B virus is 100 times greater, and several hundred health care workers die annually from complications of occupationally acquired hepatitis. Risk of occupational acquisition of HIV infection varies with the number of HIV seropositive patients one is exposed to and the number, type and magnitude of exposures.

A sophisticated biostatistical

estimate recently placed the occupational risk for surgeons between 1/4,500 and 1/130,000 patients, and the risk of operating with surgical gloves was of the same order of magnitude as heterosexual intercourse with a partner of unknown serostatus, when a condom is used.¹⁷

Notwithstanding such reassurances, anxieties about personal risk often are disproportionately high (or low). Physicians may feel uncomfortable providing care without prior HIV testing, especially if they perceive the patient to be at high risk. They also may be pressured by other providers to determine and disclose their patient's HIV status. Surgeons and other people performing invasive procedures or handling blood or tissue specimens may wish to require HIV tests so they can take additional precautions if a patient proves seropositive. Alternatively, providers may believe that required screening avoids uncomfortable or tedious patient interaction and obviates the need for risk assessment.

Many arguments have been made against mandatory pretreatment screening on the grounds of inefficacy, unacceptable cost-benefit ratio and risk to patients. ^{18,19} The American Medical Association has concurred with the Centers for Disease Control in opposing mandatory pretreatment screening. ²⁰ However, fear of HIV infection has led some physicians and other providers to assert a "right to know," and this issue remains largely unresolved.

The same law, SEA 9, which mandates informed consent, also mandates the use of "universal"

blood and body fluid precautions for all Indiana health caregivers. These precautions focus on the use of gloves and other barriers to prevent HIV penetration through non-intact skin or mucous membrane and on decreasing the risk of skin penetration with needles and other sharp objects. Universal precautions were mandated

interventions before test results are available. As technology improves, more rapid turn around times may be possible.

Prevention of injury with sharp objects is undoubtedly more difficult in emergency rooms and operating rooms. The intensity and urgency of required care, as well as the nature of procedures per-

Within a few years, every primary care physician in this state will have HIV-infected patients in his or her practice, identified or not ...

because they obviate mandatory screening with its inherent risks to both patient and provider. But, the principal rationale for universal precautions is effective risk reduction.²¹

Because seroconversion may not occur for up to 14 weeks after infection, perhaps much longer in some cases, negative antibody test results on people with possible recent HIV exposures may be invalid and falsely reassuring to caregivers. In people at possible risk of HIV infection, precautions are necessary regardless of serostatus. In addition, precautions must be taken with all patients while awaiting test results. Because even negative test results are rarely available for 24 hours, a woman could have delivered her infant, a trauma patient could have received care and an emergency surgical or medical patient could have received appropriate

formed, increase the chance of accidental injury or exposure. In fact, both universal precautions and excellent technique are needed to optimize risk reduction.

Needle punctures, the most common source of occupational exposure, are not prevented by universal precautions. In fact, in the previously cited CDC study, 37% of exposures to HIV were attributed to faulty technique¹⁶ and were therefore preventable. Because most emergency rooms and surgical procedures are necessary for patient welfare, and because the provision of appropriate care is implicit, it is difficult to see how knowing a patient's serostatus would prevent injuries to caregivers.

Unfortunately, some physicians and other providers mistrust the concept of universal precautions and persist in wishing to screen all patients, with or without consent, in order to alter treatment plans for those who prove seropositive. However, advising a less efficacious alternative may expose the physician to adverse action if the patient's outcome is unsatisfactory. If the procedure is considered elective, a physician may defer until HIV serostatus has been confirmed, and then refer seropositive patients to other physicians. But, if the procedure is indicated urgently, refusal to proceed could be considered, at a minimum, abandonment of the patient. Such actions also may be held unlawful under U.S. civil rights law pertaining to handicapped individuals. 22, 23

Finally, some medicolegal scholars and physicians have warned that if physicians assert the right to exempt pretreatment testing from informed consent laws, they leave the door open for patients to assert an equivalent right.24 ln a 1987 Gallup poll, 86% of respondents said patients should be informed if their physician "has AIDS,"25 and the American Medical Association has warned that HIV-infected physicians should not engage in activities that pose even minimal risks to their patients.26

A final concern that a patient may refuse testing occurs if a health care worker has sustained an exposure. In such cases, it has been considered acceptable practice to test the patient for hepatitis B and syphilis without informed consent. As discussed previously, some physicians are reluctant to relinquish this precedent regardless of the defined risks to the patient.

The Centers for Disease Control

recommend testing of the health care worker at the time of the exposure and at regular intervals for up to six months to determine if seroconversion has occurred: measures must be taken to prevent transmission until final serostatus is determined.²⁷ If the patient is at risk of HIV infection and tests seronegative, the health care worker would still require repeated testing to exclude the possibility of a "false negative" test in the patient. If the patient is seropositive, the worker again requires serial HIV tests over time to determine whether the exposure resulted in infection. If the patient refuses testing, the same process would be followed. Only if a truly low-risk patient was found seronegative might the worker be spared anxiety, inconvenience and repeated testing.

Given these facts, surreptitious testing of the source patient is difficult to justify. In fact, if the circumstances are explained properly and the patient is provided counseling, most patients will consent to be tested, particularly those at low risk. Most surreptitious testing probably is performed to avoid patient risk assessment and counseling; providers do not want to tell the patient that he or she is under suspicion for HIV infection.

What other options are available in the case of patient refusal? A court-ordered test requires clear and convincing evidence of an immediate and serious health threat to others. It is uncertain that such a standard would be met in the majority of occupational exposures and certainly not in a timely manner.

At present, patient risk assessment and testing with consent will permit fair and expedient handling of most occupational exposures. The efficacy of AZT as prophylaxis for occupational exposures currently is being evaluated. If early administration of AZT or other agents is efficacious, mandatory patient testing in these circumstances will require further evaluation.

Dealing with HIV infection

The real and potential value of HIV antibody tests to public health and to clinical medicine is too great to be compromised by misunderstanding and misuse. Beyond the medicolegal issues, an altogether different issue may be more fundamental.

Are physicians comfortable and confident discussing HIV risk status with patients? Have physicians become accustomed to asking intimate personal questions that may be embarrassing to both patient and physician? Are physicians in their professional capacity able to regard with objectivity behaviors that may be personally objectionable? Are physicians able to convey respect and objectivity in such discussions?

Within a few years, every primary care physician in this state will have HIV-infected patients in his or her practice, identified or not, and routine HIV risk assessment and counseling will become one standard for the competent practice of medicine. Physicians must become comfortable dealing with these aspects of patient care.

Standard practice for HIV testing First, a standard of practice

must be developed by, as well as for, the medical profession. If a uniform standard fails to emerge or a standard emerges that harms patients, increasingly restrictive laws eventually will be written to protect patient interests.

Second, the standard of practice must be patient-oriented decisionmaking, consent, confidentiality and counseling. The American Medical Association has provided an excellent guideline for physician interaction with patients around the tasks of HIV risk assessment, testing and counseling.²⁸

Third, the "medical necessity" exception must be narrowly interpreted on a case by case basis. Hospital medical staffs should give serious consideration to instituting retrospective, multi-specialty physician team review (without patient identifiers) of all HIV tests performed without documented consent. Such a review process would be educational for participating physicians and would promote patient-oriented decision-making.

Finally, physicians must take leadership in promoting professional education for ancillary health care workers in hospitals, nursing homes and other settings where health care is provided. Such education must focus on teaching universal precautions and must be accompanied by continuous supervisory monitor-

Above all, the importance of confidentiality must be firmly inculcated in every member of the modern health care team. Maintaining patient confidentiality is the reciprocal duty not only of physicians but of ancillary care

givers who assert their right to know a patient's HIV serostatus. 🖵

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Marketing in Indiana's medical community_

Myra J. Borshoff, APR Indianapolis

Editor's note: This is the third in a series of three monthly articles on marketing your practice.

Physicians throughout Indiana – no matter what size practice or specialty – are changing the way they do business by integrating marketing into their practice man-

agement.

Recent telephone interviews of Indiana physicians revealed a variety of responses to questions about marketing in their own practices. Although a few physicians believe marketing carries a negative connotation and others see it as a "quick fix," many Indiana physicians have found that marketing is an ethical and logical means to increase and maintain their practices.

In fact, some physicians contend that not marketing a medical practice is unethical because it could deprive potential patients of health care information they may need. These physicians also have discovered the positive impact of successful marketing strategies on

their bottom lines.

The first article in this series, "Marketing your medical practice: How to get started," presented an overview of marketing with steps to begin a marketing program. "Effective communication tools for marketing your practice," the second article in this series, explained a number of useful marketing tools in depth.

This final article presents an overview of marketing processes at work in the Indiana medical

community, marketing tools that are proving most effective and how marketing plans are being implemented.

Keeping patients satisfied

Interviews with several Indiana physicians suggest that word-of-mouth is still the number one means of marketing.

"Satisfied patients are the best marketing tool. A happy patient may recommend you to one person, but an unhappy patient will probably make negative comments about you to several people," says Terry Marsh, M.D., a Muncie dermatologist.

... many Indiana physicians have found that marketing is an ethical and logical means to increase and maintain their practices.

Efforts to satisfy patients have yielded a tremendous amount of growth for Dr. Marsh's practice, he says. Since October 1985, he has added two associates to keep pace with the growing practice.

Early on, Dr. Marsh found that direct advertising was not acceptable to patients in small communities, yet he knew he needed to spread the word about his practice. So, he concentrated his efforts on satisfying patients. He offers the latest technology and

equipment, comfortable surroundings and respect for patients.

"Respect means don't keep people waiting. Everyone's time is valuable, even teens'," says Marsh.

He also has implemented a successful marketing plan including: convenient location, signage, community involvement and procedures for handling physician and pharmacist referrals.

"Don't worry about your competition, worry about your pa-

tients," advises Marsh.

A Kokomo ophthalmologist, Alan Crebo, M.D., agrees, "I believe there is a trend away from using direct advertising. Paying attention to treatment of patients is the most important thing. It all goes back to bedside manner."

Targeting your market

How do physicians get patients in the door? The development and implementation of marketing plans varied among the physicians interviewed because physicians and their practices are unique. Many physicians divide their current and future patient bases into target markets according to the physician's specialty.

Derek J. Sharvelle, M.D., a Lafayette ophthalmologist, has an extensive, detailed marketing plan that is completely targeted to people age 50 and older.

Dr. Sharvelle's marketing plan includes: a van that will transport patients to and from the office within a 60 mile radius (farther if needed); patient brochures, fact sheets and a quarterly newsletter to patients and optometrists; inhouse optical dispensing; in-house pre-admissions testing for sur-

gery; educational audiocassettes and videotapes; pens for all patients; plants and afghans for surgery patients; a special logo; business cards for staff members, including van drivers; and a tollfree telephone number.

In addition, Dr. Sharvelle hosts an annual patient appreciation night with musical performances by college students. Admission is free, but donations are accepted for the local senior center and the Area Four Council on Aging.

Not all marketing programs need to be this extensive; however, all should target a well-defined market.

Involving your staff

Patients view a physician's practice by their total experience with the physician, the staff and the office. The physicians interviewed believe that a friendly and helpful staff helps the patient form a positive impression of the physician before their exam. They also believe that because the staff has such an impact on patients, it should be directly involved in the marketing plan.

Dr. Sharvelle's staff learns specific procedures for handling patients, including greeting them and escorting them to and from the exam. His staff wears matching uniforms, not just mix and match tops with white skirts or pants. He also sends his staff to national meetings that focus on staff development.

Physicians' staffs help support marketing plans outside the office as well as inside the office. Nicholas R. Rader, M.D., a Greenwood ophthalmologist, involves his staff in speaking presentations. They accompany him on speaking engagements and are prepared to make presentations if Dr. Rader is not available.

Using media relations

Local media have provided opportunities for several of the physicians interviewed to make people aware of the services they offer.

Some physicians write columns for their local newspapers. Others host or appear as guests on local radio and television programs.

"Call the Doctor" is a radio talk show that airs six days a week in Hammond and is hosted by Linda Rosenberg, M.D., a family practitioner. She says the show is an excellent marketing tool for her as well as for the doctors who are guests and the hospitals they represent.

Educating with printed material

In addition to media communication, physicians in Indiana are using written communication through printed materials to provide educational information to current and potential patients.

A urologist in Lafayette, Norman Mark, M.D., says, "A well-informed public can make better health care decisions."

Printed communication materials are helping other physicians target their markets. The Caylor-Nickel Medical Center, a multispecialty group practice in Bluffton, issues three newsletters to three different markets. One newsletter is targeted to patients and offers general information on health and preventative tech-

... physicians in Indiana are using written communication through printed materials to provide educational information to current and potential patients.

All types of health topics are discussed, with emphasis on preventative medicine and clarification of misconceptions. Dr. Rosenberg spends a lot of time researching and preparing for the shows. Her office manager helps contact and schedule guests. The local hospital also helps schedule guests.

She says she sees results from the show in her practice. Recently, a woman stopped in her office to thank her for doing a show on blood clots. This woman realized she had some of the symptoms described on the show, then contacted her physician, who identified and treated the problem.

niques; another is directed to patients older than 50 and offers pertinent information to this group; and a third newsletter is written especially for physicians.

Diane Witwer, director of marketing at the Caylor-Nickel Medical Center, says direct mail in the form of newsletters has proven very effective, especially since the medical center covers such a broad market area and offers many specialties.

Placing advertisements

Several forms of advertising are available, each with its own target markets, costs, advantages and disadvantages. The media used by the physicians interviewed vary depending on the community size, type of practice and

budget.

"We began advertising because we started using laser technology to treat our patients," explains George A. Donnally, M.D., one of six proctologists in a Mooresville group practice. "We felt that people wanted and needed to know alternatives for treatments."

The group hired an outside agency and ran newspaper ads for three months. The response was so overwhelming that the staff had difficulty answering all of the telephone calls, and there wasn't enough appointment time for new patients. Dr. Donnally stopped

running the ads.

This group has not given up advertising. They began a new series of ads about hemorrhoid treatments. This time, however, there was a toll-free number that was answered by the local hospital's marketing department, and appointment times for new patients were specifically designated.

Marshall Roch, M.D., a Muncie ophthalmologist, hired an agency to conduct quantitative research to help determine how and when to advertise. The research process includes gathering information from patients on why they selected Dr. Roch and where they are from, as well as suggestions to improve patient care.

Dr. Roch says, "Unless you do quantitative research, you are throwing vour money away. Research gives you a better idea on where your patients are coming from and how to keep the ones

vou have."

Implementing the plan

To implement a successful marketing plan with the assistance of either outside consultants or inhouse staff members, physicians need to work together with marketing experts, not just turn the responsibility over to them.

Professional communications consultants or firms have helped some of the interviewed physicians conduct and analyze research, develop a marketing strategy based on goals, both professional and personal, and implement elements such as printed materials, media relations and community involvement.

Many physicians are fulfilling their marketing needs by hiring a full- or part-time marketing/communications person.

Some physicians find that some marketing elements are best handled in-house, while others need outside perspective and expertise. Diane Witwer says the Caylor-Nickel Medical Center tries to keep as much in-house as possible because the volume of marketing materials is so great. Sometimes they seek outside help for advertising, writing, photography and layout. In the past, freelancers as well as firms or agencies have been used to fill the need.

When considering in-house or outside help, Witwer always asks, "How should this need be filled in the most cost-effective manner?" She also says, "A private practice may be better off using a

firm or agency."

Dr. Marsh handles most of his marketing plan in-house, but Ball Memorial Hospital provides some assistance, such as mailing news releases. Currently, Dr. Marsh is working on a patient information brochure in-house, but he doesn't have the time to get it out. At this point, the practice is booming, and he is considering hiring a business/communications person.

Many physicians are fulfilling their marketing needs by hiring a full- or part-time marketing/com-

munications person.

Dr. Sharvelle decided to hire a full-time person because he believed his marketing plan would be handled best in-house. The person he hired handles the marketing plan in-house and coordinates with an outside firm for radio, television and newspaper ads.

The physicians' interviews reveal that many medical practices go through three phases of marketing: 1) initiating a marketing plan to develop in-house; 2) working with an outside firm or consultant on a few projects and eventually assigning more responsibility out of house; 3) hiring a full- or part-time marketing person to coordinate with the outside firm.

Evaluating the plan

The physicians interviewed all evaluate the results of their marketing efforts in some form. Most ask new patients how they heard about the practice. To effectively use the marketing budget, a physician needs to know what works and what doesn't.

Preparing for the future

The same factors that challenge the future of health care offer

opportunities for the astute physician. Physicians need marketing plans to maintain their patient base as well as increase it.

"You can't just hang out a shingle and wait for the patients to line up," says Dr. Rosenberg.

Whether the plan is handled inhouse, by firms or a combination of both, physicians must formalize a marketing plan, implement it, measure the results and make adjustments as needed to ensure continued success in today's competitive market.

By adopting a marketing plan as part of their overall practice management, physicians enhance the quality of care they provide – creating a win-win situation that benefits physicians and their patients. \square

The author is president of Borshoff & Co., Inc., a public relations and marketing communications firm in Indianapolis. Her firm's specialty services include professional services marketing.

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A tribute to Don J. Wolfram, M.D._

Kenneth R. Woolling, M.D. Indianapolis

The spotlight of world acclaim does not often turn to recognize an Indiana physician, but Don J. Wolfram, M.D., a long-time Indianapolis internist and member of the Indiana State Medical Association, recently has received such international recognition.

Dr. Wolfram has been honored by the naming of an unusual medical condition, Wolfram syndrome, which he first described when he was 28 years old. Although earlier there was gradual recognition of his observations, widespread appreciation of their importance has come in recent years. Since 1986, Wolfram syndrome has been adopted as an accepted term in medical indexing. It currently is listed in *Dorland's Medical Dictionary.*

In 1938 when Dr. Wolfram was a fellow in internal medicine at the Mayo Clinic in Rochester, Minn., he was asked to examine four young patients with diabetes mellitus. These patients were four of a family of eight siblings, ranging from three to 18 years in age. Two of the four patients were boys, and two were girls.

Dr. Wolfram was struck that each of the four patients had impaired vision, due to optic atrophy rather than retinopathy, which is the common cause of visual impairment in young diabetics. He became more curious after he learned that none of the four other siblings had diabetes mellitus, nor did either of the parents. One paternal aunt was diabetic.

Although no etiologic relationship between diabetes mellitus and simple progressive optic atrophy had been established, he nevertheless believed the coexistence of these conditions in four children of the same family was of "sufficient interest to warrant a short report." He sought the opinion of noted Mayo ophthalmologist, Dr. Henry P. Wagener, who agreed that Dr. Wolfram was correct in his diagnosis of bilateral progressive simple optic atrophy and encouraged him to proceed with his report. Dr. Edwin Kepler, a famous Mayo endocrinologist, also gave Dr. Wolfram encouragement. The article was published that year in the Proceedings of the Staff Meetings of the Mayo Clinic

The association between diabetes mellitus and optic atrophy had been described in 1858 by Von Graeffe,3 but it was not recognized to be a hereditary syndrome until Dr. Wolfram's report in 1938. Additional reports of the same syndrome began to appear in medical journals, and the condition created great interest, especially among diabetologists and neurologists. Subsequently, literature on the subject developed and is still growing. Since 1965, there have been 77 documents on this subject published in world literature. According to Blasi and coworkers, 170 cases have been reported since Dr. Wolfram's vanguard paper in 1938.4

The accumulation of a substantial number of examples of this syndrome has revealed that there may be additional features, such as diabetes insipidus, deafness, atony and dilation of the urinary

tract, and sclerodermatous changes in the hands, to complete the syndrome. However, some of these features often are lacking in the individual case, while diabetes mellitus and optic atrophy are virtually always present and represent the hallmarks of this rare condition. Studies have shown that most of these manifestations. with the exception of diabetes mellitus, suggest a neuro-ectodermal origin. Some of these, unless investigated by appropriate specialized techniques, may be mistaken for complications of diabetes mellitus, and the correct diagnosis missed entirely.

The constellation of symptoms that may occur as components of Wolfram syndrome has led to the designation of a subset of the syndrome, DIDMOAD (diabetes insipidus, diabetes mellitus, optic atrophy and deafness). For those cases additionally manifesting urinary atony, another subset, DIDMOADUA, has been proposed.⁵

The diabetes mellitus that occurs with Wolfram syndrome, even if appearing to be similar to classic insulin-dependent diabetes mellitus in the alterations of carbohydrate metabolism, actually differs in many ways.4 While a lack of insulin secretion after stimulative tests and, in some cases, low plasma C-peptide levels are found, the human lymphocyte antigens found are not typical. Organ- and nonorgan-specific auto-antibodies are absent, and the genetic pedigree is different than in insulin-dependent diabetes mellitus. In some cases of Wolfram syndrome, the carbohydrate metabolic disorder first appears as a simple glucose intolerance or as clinical diabetes curable by diet alone. The carbohydrate homeostasis disturbance among siblings with the syndrome occurs in different forms, ranging from glucose intolerance with hypersecretion of insulin to insulin-dependent diabetes mellitus.

If Wolfram syndrome is indeed of neuro-ectodermal origin, how can the pancreatic disturbance be explained? No answers have been given to date. But, several theories have been advanced, the most notable of which is the proposal of damage in the central nervous system, particularly in the centers in the hypothalamus that regulate glucose homeostasis.

The hypothesis includes the possibility that insulin resistance and hyperinsulinism, as in Friedreich's ataxia, a related congenital disorder, may develop into hypoinsulinemic diabetes mellitus and that the pancreatic beta cells

may have burned out during the initial intense stimulation or been made more vulnerable to other potentially noxious factors.

Since Dr. Wolfram's original investigation, further characterization of the syndrome has been possible because of the advances in genetics and immunology. We hope continued efforts will be made to discover the responsible etiologic and pathophysiologic mechanisms. Such discoveries could lead to prevention and therapy of this rare but devastating disease as well as other related hereditary diseases of the central nervous system. More importantly, elucidation of this challenging condition could lead to a breakthrough in the management or cure of classic insulin-dependent diabetes mellitus, a disorder afflicting millions of people.

It is refreshing and gratifying to witness the bestowal of such an honor to a worthy physician. Dr.

Wolfram is to be congratulated for his significant contribution to medicine and for this distinguished honor that reflects well on everyone in Hoosierdom.

For a complete list of medical literature on this subject from 1965 to present, write INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, IN 46208.

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Dr. Don J. Wolfram

Indianapolis physician honored by naming of disease

Don J. Wolfram, M.D., for whom the Wolfram syndrome is named, is the medical director for Goodwill Industries, the Police and Firemen's Association and College Life Insurance Co.

He also is medical examiner at the Medical Entrance Processing Station for the U.S. Armed Forces.

Dr. Wolfram was in private practice from 1938 to 1975 and was medical director at Jefferson National Life Insurance Co. in Indianapolis from 1946 to 1980.

He graduated from the Indiana University School of Medicine in 1934 and served an internal medicine fellowship at the Mayo Clinic in Rochester, Minn., from 1935 to 1938. He served in the Army as chief of medicine for the 20th General Hospital during World War II.

Dr. Wolfram is a fellow of the American College of Physicians, a diplomate of the American Board of Internal Medicine, an associate clinical professor emeritus at the I.U. School of Medicine and a member of the American Society of Internal Medicine.

He and his wife, Virginia, live in Indianapolis. □

Radon: A new look at an old risk

Mary Ann Cox Indianapolis

Radon isn't new. It is literally as old as dirt. As an odorless, colorless, tasteless gas, radon is produced by the decay of uranium in rocks and soil.

What is new about radon is the increasing attention being focused on the long-range health effects elevated levels of radon create for you, for me, for our families and for our neighbors ... the people Hoosier physicians live with and serve.

Radon progeny pose real risk

Radon can be found every-where. Yet, it poses no significant health risk until it is trapped within structures, such as our homes, and builds in concentration. The real risk comes not from radon itself but from radon decay products, called radon progeny, which are produced in the decay chain.

The radon progeny attach themselves to dust particles in the air and then are inhaled and deposited in the respiratory tract where they continue to decay, damaging the bronchial epithelium.

There is nothing new about the recognition of radon and radon progeny as a health risk. A link between radon and lung cancer in miners was suggested about 60 years ago, and an association between lung cancer and the inhalation of short-lived radon progeny was recognized in the 1950s.

Why focus on radon now

Today's focus on radon exposure for you and your patients,

people who most likely have never been in an underground mine, is the result of an unusual occurrence in Pennsylvania in

Stanley Watras, an engineer at the Limerick nuclear power plant, began tripping the radiation monitors every evening as he passed through them. On occasion, the monitors showed him carrying as much as six times the radiation allowed by safety regulations. None of Watras' coworkers caused the monitors to react, and no one could determine the source of Watras' exposure.

One day, out of frustration, Watras walked in the front door of the plant, and without going near the power block, he turned and walked through the monitors. The alarm sounded. Watras said that's when he knew the source of radiation was not the plant but his home.

The family's residence was tested and registered levels of radon that carried risk factors equivalent to smoking 135 packages of cigarettes a day. Researchers estimated that in the year the Watras family lived in the newly-constructed home they increased their chances of getting lung cancer by almost 15%.

Radon in Indiana

The Watras' home was constructed along the Reading Prong, a uranium-rich section extending through Pennsylvania into New Jersey. No Indiana residence has been found with radon levels approaching those in the Watras' home.

During 1988 and 1989, the Indiana State Board of Health and Ball State University independently sampled more than 2,600 Hoosier homes and found that approximately one-quarter of the randomly selected test sites registered radon levels above the U.S. Environmental Protection Agency's (EPA) established action level, which is 4 picocuries per liter. Radon readings in those tested homes ranged from .5 to the mid-70s, the high reading approximating risk levels associated with smoking nearly three packs of cigarettes daily.

Ten highest radon measurements in Indiana

Radon level County 72 Orange 60 Hamilton 46 Tippecance 44 Wayne 41 Monroe 37 Allen 34 Fountain 32 Clark 31 Tippecance 29 Harrison

These single measurements do not represent all homes in these countles. 1987-1988 heating season survey managed by the Indiana State Board of Health.

Radon in 1989

Much of what is known about radon in residences is based on epidemiological studies of underground miners exposed to varying levels of radon. So, the answers for residential radon risk have not vet been found. Research is ongoing to further define respiratory tract cancer risks from exposure to radon progeny in homes.

Here is some important radon information:

· Radon exists in some concentration almost everywhere:

• There is no "safe" level of radon. The EPA "Action Level" is based in terms of level reduction in established residences:

• Lung cancer is the only

known health risk associated with radon:

 Radon has been associated with about 20,000 of the approximate annual 150,000 lung cancer deaths in the United States:

• It is impossible to determine levels of radon exposure, and thus, personal health risk levels, without first determining approximate daily radon exposure levels;

 A lifetime exposure to as little as 4 picocuries per liter of radon is roughly equivalent to a lifetime of smoking a half pack of cigarettes a day. Exposure to 20 picocuries per liter of radon is almost equivalent to smoking two packs of cigarettes per day (the EPA's risk estimates assume an

individual is exposed to a given concentration of radon at least 75% of the time during a lifetime of about 70 years); and

• The risk ratio for exposure to radon increases non-linearly with the smoking factor at all levels.

The author is a public information officer with the Indiana State Board of Health.

For more information on radon. call the radou hotline at the Indiana State Board of Health, 1-800-272-9RAD, or write the Division of Industrial Hygiene and Radiological Health, Indiana State Board of Health, 1330 W. Michigan St., Indianapolis, IN 46206-1964.

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1989 session was no idle business

Julie Newland ISMA Director of Government Relations

"The effort really to see and really to represent is no idle business in the face of the constant force that makes for muddlement. The great thing is indeed that the muddled state, too, is one of the very sharpest of the realities, that it also has color and form and character and has often impact, a broad and rich comicality." – Henry James

It you want to measure legislative success by the number of bills that suffered fatalities, then the ISMA did rather well this year in policy arena.

Split House and new governor

Indiana's House of Representatives began its 1989 term with a 50-50 political split and the nation's youngest governor. The House had to organize itself and select the party that would rule. The final result was a complete sharing of power between the two parties.

In addition, each member of the House could control the fate of his or her own legislation once the bill came before the entire House for consideration. Not unlike kids in a candy store, the members of the House decided now was the time to grab all of the gumballs.

Meanwhile, in the Senate, the Republicans maintained a thin margin of control, but control nonetheless, of the committees.

During this session, a record number of bills were filed for consideration, and many of them were in the health and medical area. Some bills were repeat performances from last session.

One of the true successes of this session was the defeat of two proposals that would have dealt a critical blow to the Indiana Medical Malpractice Act. Two bills were filed this year, one to raise the cap on awards to \$1 million and the other to raise the cap annually and tie it to increases in the Consumer Price Index.

Another ISMA success was the passage of the expanded SOBRA option under Medicaid ...

In order to defeat these two measures and keep other integral parts of the act from being subject to intense legislative scrutiny now and in the next several years (medical panel review process and the statute of limitations), the ISMA met with other interested parties and agreed to support an increase in the cap to \$750,000, for acts of malpractice that occur on or after Jan. 1, 1990. This was embodied in HB 1777, which received strong votes of support from both houses of the legislature and was signed into law.

Another proposal dealing with the use of expert witnesses in medical malpractice cases did not pass the House. In addition, the ISMA was successful in defeating a proposal mandating assignment under Medicare as a condition of licensure, a proposal to prohibit physicians from dispensing medications from the office, several proposals that would have expanded the scope of practice of currently licensed practitioners, and other proposals to allow other allied health practitioners to be licensed.

Another ISMA success was the passage of the expanded SOBRA option under Medicaid to allow more pregnant women and their children who live in poverty to receive medical care.

In the House, the ISMA was able to secure the short-lived passage of three proposals designed to limit the access minors have to tobacco and to restrict smoking in public places and health facilities. These proposals, however, were stalled in the Indiana Senate.

Drug-related issues emphasized

Gov. Evan Bayh submitted a package of bills to the legislature to increase the penalties under law for the use, possession and selling of drugs. These bills were geared largely toward the use of illicit and narcotic drugs and received a strong vote of support from the lawmakers.

Other drug-related proposals also were considered this session: A prohibition against the practice of therapeutic substitution; bringing the American Medical Association's prescription abuse drug synthesis program (PADS II) to Indiana and a sharing of data between this program and the triplicate prescription program; and the substitution of generic

drugs on Medicare and Medicaid prescriptions.

Other health/medical areas

The record number of health care bills filed this year kept lawmakers and lobbvists busy. Other health and medical areas that were considered are listed below.

Communicable diseases - AIDS. A patient's duty to warn his contacts and the licensure of blood banks

Allied health professions - Licensure of occupational therapists and respiratory therapists; certification of marriage and family therapists, social workers and mental health counselors; physical therapist's direct access to patients without a physician's referral; and allowing chiropractors to take chest x-rays.

Health records - Release of mental health and hospital records.

Hospitals and health facilities -Restructuring of the functions of the hospital licensing council and the health facilities council, conversion of sub-acute-care beds and health planning for long-term

Local health devartments - Revamping of the responsibilities of the local health departments and the state board of health.

Peer review - Adding interdisciplinary health care provider committees under the peer review

Public welfare/Medicaid - Mandating \$30 million in Medicaid cuts including capping physician's reimbursement under Medicaid to the Medicare allowed amount.

What looms for the interim?

Several committees and commissions will study and review these areas this summer, including a commission to be appointed by the governor that will spend two years reviewing and making recommendations on the access to and cost of Indiana's health care system.

Physicians' and auxilians' help

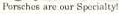
Many of the ISMA legislative successes can be attributed directly to the physicians and auxilians who followed the activities of the lawmakers as they debated these proposals and who communicated their opinions to their legislators. No law is created in a vacuum. Legislators need and want the input of their physician constituents and the ISMA on health-related proposals so they can make an informed decision when voting.

The ISMA must continue to provide this information and stay informed in the health care public policy area. A special thank you is extended to all ISMA members and auxilians who took time to write to, phone or communicate personally with their legislators.

The 1989 Digest of Health and Medical Laws will be printed in the August issue of Indiana Medicine.

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Medical museum notes

(continued from page 510)

It paid off! →

made the quack remedy parked here (at his own expense) with a whole case of the medicine guaranteed to cure Riley. All the man asked was a testimonial. Riley thought that was wonderful. The only way we could bring him around was to say: 'Don't you know what that fellow is going to do? He'll put a boiler-plate testimonial in every county newspaper and you will be deluged with letters ...'" □

Two Blocks

South of

Wendy's

in

Castleton

message from the president

Fred W. Dahling, M.D. ISMA president

In this issue of INDIANA MEDICINE, the second installment of a three-part series on AIDS appears. This month, too, marks the first state conference, "HIV Infection in Primary Medical Practice," sponsored by the Midwest AIDS Training and Education Center (MATEC). I encourage ISMA members to read the series and to participate in the conference July 21 and 22 at the University Place Executive Conference Center in Indianapolis.

Some Indiana physicians still have not seen their first AIDS case. The latest monthly summary of AIDS cases from the Indiana State Board of Health (ISBH) indicates 27 counties have yet to report an AIDS case. However, health officials say some AIDS

cases have not been reported until after the patient has died – up to two years after diagnosis.

It appears that the rate of new AIDS cases has slowed. The number of new cases reported is no longer doubling, as was the case in 1984 and 1985. The number of cases rose from 80 in 1986 to 139 in 1987. In 1988, the number of cases increased to 173, according to information provided by the ISBH.

In spite of those figures, Judy Johnson, M.D., MATEC project director and the author of our AIDS series, says infectious disease specialists, most of whom are in the Indianapolis area, are quickly reaching the saturation point in the number of patients they can continue to treat. Thus far, the bulk of AIDS cases in Indiana has been in the Indianapolis

Physicians in other areas of the

state say AIDS patients have requested to be referred to Marion County for treatment because of the stigma associated with the disease. Even now, there are rumblings that Indiana physicians are reluctant to take AIDS patients, or even to care for those who test positive for HIV but have not developed AIDS.

We are fortunate to have the resources of MATEC to design and deliver education and training programs for physicians and their support staffs in the care and management of the HIV infection. It would seem prudent for physicians from every county to take part in the upcoming conference whether or not they have diagnosed or treated this disease.

It has been said that education is our best defense against AIDS. That statement is just as applicable to the medical community as it is to the public in general.

commentary

Generic versus brand name

Philip Ball, M.D. Muncie

This is a story about a middle-aged husband, father and successful businessman who recently went to the drug store to get the heart medicine that is essential to keep him alive. While at the drugstore, he very emphatically told the pharmacist he wanted his medication to be the "generic type."

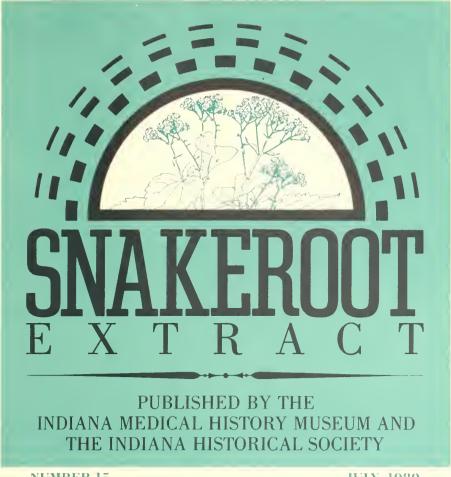
He then went next door to the grocery store, where he bypassed the counter with generic cigarettes in favor of another counter, where he picked up two cartons of Camels. Then he passed the generic beer and instead picked up two six-packs of Budweiser. On his way out of the store, he walked by the generic potato chips and instead selected a tube of "Pringle's Old-Fashioned" potato chips.

On his way home, he filled the tank of his non-generic Mercedes

SXL 5000 Turbo with super-premium, high-octane, mile-maker Indy 500 special gasoline and knew he had his Mercedes happy with this special fuel.

On the car radio on his way home, he listed to non-generic commercials for Biz, Tidy Bowl, Downey, Drano, Mr. Clean, Johnson's Pledge, McDonald's, Hardee's and Wendy's.

The moral of this story: The discriminating buyer knows when to order generic things.



NUMBER 15

JULY, 1989

SOCIETY RECEIVES IMPORTANT PHARMACEUTICAL COLLECTION

Over 697 boxes containing more than 350,000 individual prescriptions dating from 1866 to 1976 comprise one of the most interesting and valuable collections received by the Indiana Historical Society. These prescriptions document the history of Schreiber Drugs of Tell City, Indiana. Charles A. Schreiber, Sr., the grandson of the pharmacy's founder, recently donated the collection to the Society. Such extensive records are rare. According to the National Library of Medicine, only one or two similar collections exist in the United States.

August Schreiber (1837-1913) founded the family-owned pharmacy in the 1860s. A German immigrant, he was self-trained as were most pharmacists of his day. The first American college of pharmacy opened

in 1822 in Philadelphia, but few opportunities for formal education

(continued on Page 3)

Schreiber Drugs, ca. late 1860s. In 1878, the August Schreiber relocated the drugstore across the street from this building on Main Street. The latter store was closed in 1980. Photo courtesy Charles A. Schreiber, Sr.

SNAKEROOT EXTRACT HAS A NEW LOOK

Snakeroot Extract has a new look thanks to Indianapolis designer Deb Larimore. The newsletter is copublished by the Indiana Historical Society and the Indiana Medical History Museum. The logo includes design elements representing both organizations.

The half circle is a stylistic representation of windows in the library of the museum's Old Pathology Building; the broken lines surrounding the half-circle are stylistic representations of the decorative brick work near the roof line. The lettering in the logo, as well as the type style for the newsletter, is Bodoni, the same typeface used for the Indiana Historical Society's newsletter and brochures.

A white snakeroot plant is shown in the stylized window. As noted before, the title of the newsletter derives its name from the white snakeroot, a plant which was significant in Indiana's medical history. The plant contains the poison tremetol and was the cause of milk sickness. Originally, many individuals believed the disease was caused by drinking milk. However, it was discovered in the 1920s that it was caused by drinking milk from cows who had grazed on the white snakeroot plant.

MUSEUM ENHANCES HEALTH FRAUD COLLECTION

"Thermo-Electro Magnetism is the safest, easiest, most effective and tried therapeutic agent that has ever been introduced." claimed the Magnecoil Company in the 1920s. The company produced an electric blanket and boots designed to create "an intensified thermo-magnetic field around the patient," as well as aid metabolism, cleanse the blood, increase circulation, improve nerve action, and cure diseases ranging from bad breath to cancer. In reality, the Magnecoil was a glorified electric blanket and one of many quack devices which used electricity or magnetism to "cure" disease. Manufacturers claimed that their products either removed bad electricity from the body or added good electricity.

Recently Mrs. Jean Coleman of Indianapolis donated the Magnecoil electric blanket to the Indiana Medical History Museum. The donation also included instruction books, advice pamphlets, and correspondence containing personalized instructions and health advice from the Magnecoil Company to Mrs. Coleman's parents.

The Magnecoil Company was incorporated in 1917 in Utah as the Electronet Sales Company. The Electronet Sales Company had succeeded an earlier firm, Hornshuch and Charles, which manufactured and sold bathrobes. The Electronet Sales Company sold Electronet Magnetic Health Garments. To increase sales, representatives of the company delivered health lectures across the



Photo by Paul Tracy Wilson The above materials accompanied the Magnecoil treatment system. In the collection of the Indiana Medical History Museum.

country and claimed their products superior to all others. The device, which was no more than an electric heating pad, allegedly cured most diseases. The Propaganda Department of the American Medical Association termed the device "a piece of crude quackery." They went on to say that "fonel can get the same results from any of the numerous electric heating pads sold by reputable concerns." In 1924 a physician wrote that: "They [the Electronet Sales Company] victimize the paraletics and cripple[d] who are shut in's [sic] by assuring them a cure."

Like all manufacturers of quack devices, the company used testimonials from physicians and consumers extolling the virtues of the products. Out of the five doctors

 $ISSN\ 0743-6033$

Snakeroot Extract is a joint publication of the Indiana Historical Society's Medical History Committee (315 West Ohio Street, Indianapolis, Indiana 46202) and the Indiana Medical History Museum (Old Pathology Building, 3000 West Washington Street, Indianapolis, Indiana 46222). The newsletter is mailed to members of both the committee and the museum.

Submit all items for publication in the newsletter and inquiries about membership information to Katherine Mandusic McDonell, Managing Editor, c/o Indiana Historical Society, 315 West Ohio Street, Indianapolis, Indiana 46202.

Snakeroot Extract derives its name from the white snakeroot, a plant that is significant in Indiana medical history. For years, a mysterious disease called milk sickness plagued early Hoosiers. There were many theories as to the disease's cause, but the actual cause remained unknown until the 1920s. At that time, the disease was traced to the white snakeroot plant or, rather, to the consumption of milk from cows that had eaten it. The plant contains the poison tremetol.

whose testimonials were used, however, one was dead and one was not a physician.

Probably because of the criticism leveled at the company, the organization changed its name in 1925 to the Magnecoil Company. Instead of selling the Electronet, it sold the Magnecoil, a "complete health service." For eighty-eight dollars, the afflicted individual received the Magnecoil electric garment, electric boots, electric collar, and an owner's manual describing specific treatments. Also, the subscriber received printed "success booklets" containing testimonials on the merits of Magnecoil for the cure of various diseases. In addition, the subscriber received personal health advice from a naturopathic physician who explained the causes of disease and how the Magnecoil system of treatment worked. The letters donated to the museum are revealing. Even when the treatment was not working or caused an adverse reaction, the naturopathic physician urged the unwary consumer to continue the therapy. An adverse reaction to the treatment, according to the manufacturer, merely meant that the Magnecoil was working and the poisons in the body were being eliminated. If the individual showed no signs of improvement, the naturopathic physician advised patience and continued use of the

(continued on Page 4)



Above: Corporate headquarters of the Magnecoil Company, Salt Lake City, Utah, ca. 1920s. Photo in the collection of the Indiana Medical History Museum.

SOCIETY RECEIVES COLLECTION

(continued from Page 1)

were available. State universities did not establish pharmacy programs until after the Civil War. Although the American Pharmaceutical Association dates from 1852, licensing of pharmacists did not become widespread until the late nineteenth century.

Many early pharmacists, including August Schreiber, compounded drugs and made them into pills. suppositories, powders, and emulsions. During the late nineteenth century, however, the rise of large pharmaceutical companies made the drugstore laboratory obsolete. The pharmacist soon realized that the sale of medicinal drugs alone was not profitable. By the late nineteenth century, the supply of drugstores far exceeded the demand. Price cutting became commonplace, and drugstores began stocking a wide variety of other products.

Schreiber's store, too, felt the effects of increased competition. August began selling a number of well-known patent medicines, such as Lydia Pinkham's Vegetable Compound, Dr. Kilmer's Indian Cough Cure, Pluto Water, Dr. Pierce's Golden Medical Discovery, and Dr. William's Pink Pills for Pale People. He also offered books, stationery, lamps, and musical instruments to the public. In the 1890s Schreiber added on to the pharmacy building and expanded his stock to include wallpaper and hardware. August also became active in politics, serving as Tell City's deputy revenue collector, its first mayor, and local postmaster.

From 1890 to 1900 the competition among drugstores intensified. The years following the depression of 1893 proved particularly difficult for Schreiber Drugs. In 1901 August's son, Charles Robert Darwin Schreiber (1874-1968), returned to Tell City from California (where he had established a pharmacy) to help save his father's financially troubled drugstore. Darwin, an 1896 graduate of Northwestern University College of



Charles A. Schreiber, Sr.

Pharmacy, was the first professionallytrained pharmacist to join Schreiber Drugs. Darwin asked his businessman uncle from Dubuque, Iowa, for advice on operating the drugstore. Upon his uncle's advice, Schreiber Drugs established a modern bookkeeping system and bought its first cash register.

Darwin also realized that the drug business alone would not sustain the pharmacy. Doctors continued to dispense drugs, and pharmacists prescribed. Darwin therefore expanded the business by adding a new, two-story building to the pharmacy in which he opened a grocery. To increase profits, he sold toys and cameras in the store during the Christmas season. In 1922 Schreiber Drugs became a warehouse and office for the American Railway Express Company.

In the early twentieth century, competition from chain stores threatened the existence of the independent pharmacy. Many, like Schreiber Drugs, affiliated with chains to stay in business. In the early 1920s Schreiber Drugs became part of the Rexall franchise, which status it still maintains. At the same time Schreiber sold the grocery department and concentrated on the drug and retail



Decorative tile outside front entrance of Schreiber Drugs (Main Street store). Photo courtesy Indiana Historical Society.

hardware business

Darwin had two sons. Charles August Schreiber, Sr., and Robert James Schreiber, Like his father Charles became a pharmacist and entered the family business, He graduated from the Louisville College of Pharmacy with a pharmacy degree in 1932 and entered the field as it was undergoing a dramatic upheaval. The introduction of sulfa drugs in the 1930s and penicillin in the 1940s had a profound effect on both medicine and pharmacy. Large drug manufacturers expanded rapidly. With the production of prescription drugs. pharmacists no longer compounded prescriptions. Moreover, new laws regulated the compounding. manufacture, and dispensing of drugs. In response to the growing prescription business. Schreiber Drugs opened a pharmacy in the Tell City Clinic (located adjacent to the drugstore). When the clinic expanded in the 1950s. Schreiber remodeled the drugstore and finally gave up selling wallpaper and hardware to concentrate on pharmaceuticals.

In 1956 Charles A. Schreiber, Jr., entered the family-run business. The younger Schreiber oversaw the expansion of the clinic, the construction of a new clinic and clinic pharmacy away from the downtown store, and the beginning of competitive advertising campaigns. In 1977 Schreiber Drugs opened its first shopping center store. By 1980 the shopping habits of the public had changed, and Schreiber drugs closed its downtown store. Schreiber Drugs once again adjusted to changing shopping habits by closing its clinic store in 1986 and opening a drugstore in a supermarket. That store continues in existence today.

The family kept the prescription files and records of the pharmacy on the third floor of the Main Street store. Those prescriptions survived the 1937 flood; luckily, no fire had ever swept through the store. The collection provides valuable information on the development of therapeutics. Because of the sensitive nature of the information, however, the prescription files dating from 1910 onward will only be available for statistical analysis by qualified researchers.

MUSEUM RECEIVES GRANT

The Indiana Medical History Museum was one of twenty-seven recipients of an Indiana Heritage Research Grant from the Indiana Humanities Council and the Indiana Historical Society. The Indiana Heritage Research Grant program is designed to promote state and local research projects. Among the types of projects funded are basic research. oral history transcription and collecton, and interpretation and cataloging of historical collections. The museum will use the \$2,500 grant for a cataloging project entitled, "Technology's Effect on Medicine."

As with many museums, the Indiana Medical History Museum has developed a cataloging backlog. The project involves not only accessioning at least two hundred artifacts but also conducting research on these items. The research will involve dating and identifying artifacts, as well as determining their technological significance. Once these artifacts are cataloged, the museum will have

better control over its collection and will be able to make these items available to schools and other organizations through traveling kits. Part of this project will also involve developing a prototype of a traveling school kit. This kit will be available at a teachers' workshop to be held at the museum in May, 1990.

MUSEUM ENHANCES COLLECTION (continued from Page 3)

Magnecoil until results were evident.

During the period that the Magnecoil Company marketed its product, a number of physicians and the American Medical Association tried to expose the device as quackery. Under the Pure Food and Drug Act of 1906, the Food and Drug Administration lacked power over device quackery. Not until 1938 was the FDA given authority over this area. In an attempt to curb sales of Magnecoil, the Federal Trade Commission in 1933 ordered the company to cease and desist its representations that the product was a

great discovery in electrotherapeutics. In 1939 the FTC noted that the Magnecoil Company had violated the Federal Trade Commission Act by misrepresenting its product. Undoubtedly, the FTC's ruling hurt the company, although the organization continued in operation until 1948. Similar rulings did not end device quackery. As manufacturers of these items realized, a large and eager market existed among those who suffered from diseases for which modern medicine had no cures.



Above: Magnecoil treatment boots and instruction booklet, ca. 1920s. In the collection of the Indiana Medical History Museum.



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Brief Summary

Consult the package liferature for complete information

consum the pactage inertainter for complete information. Indictations and Usage, And is indicated for up to eight weeks for the treatment of active douberal ulcer in most painerits, the ulcer will heal within four weeks. And is indicated for maintenance therapy for doubeand ulcer patients at a reduced dosage of 150 mg h s after healing of an active douberal ulcer. The consequences of continuous therapy with Aud for longer than one year are not known.

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2 Because matadime is excreted primarily by the kidney, dosage should be real and incomplex and the patient dystronic hidden in the liver in patients with normal renal function and uncomplicated he patient dystronic the disposition of machine is similar to that in normal subjects.

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used during pregnancy only if the poternala benefit justifies the potential risk to the Nursing Mothers — Studies conducted in lactating women have shown that <0.1% of the administrated oral dose of inzabdine is secreted in human milk in proportion to plasma concertifiations. Caution should be exercised when adminis-rening nuzation to a nursing mother Pedatur. Use — Safety and effectiveness in children have not been established Use in Elderly Patients — Uter healing rates in adderly patients are similar to those in younger age groups. The mochen cates of adverse events and laboratory less adominants are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of inzatione. Elderly patients may have reduced erial hunction.

Reduced renal function

Adverse Reactions: Clinical thals of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations 0 omestic placebo-controlled than included over 1,900 gaven placebo. Among reported adverse events in the domestic placebo-controlled thals, sweating (1% vs. 07%), urchazan (5% vs. 4 o 01%), and somnotioned (24 vs. 13%) were significantly more common in the nizatidine group. A variety of less common events was also regorded, it was not possible to determine whether these were caused by

cardly more common in the mizationic group. A vanety of less common events was as or reported, if was not possible to determine whether these were caused by nizationic.

Repaire Hepaticellular injury, evidenced by elevated liver enzyme tests (SGOT (AST), GSOT (ALT), or all values phosphatase), occurred in some patients and soft as feed and the second of the se

reported

Overdosage: Overdoses of Axid have been reported rarely. The following is provided to serve as a guide should such an overdose be encountered.

Signs and Symptoms.—There is little elimical experience with overdosage of Axid in humans. Test a immals that received large doses of inzabdine have exhibited cholinetge-type effects, including lacination, salivation, emess, mosis, and extension and the salivation of the provided of the provided of the salivation of the provided of the provided of the salivation of the provided of the provided of the salivation of the provided of the provided of the salivation of th

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cancer corner

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The Walther Cancer Institute announced the signing of an agreement with Methodist Hospital of Indiana, Inc. to conduct a collaborative research program directed toward improvement in cancer treatment.

Dr. W. Page Faulk, director of experimental pathology at Methodist's Center for Reproduction and Transplantation Immunology, is the principal program investigator. He will be assisted by Hava Harats, M.D., a postdoctoral fellow with Dr. Faulk and the Methodist Walther Oncology Fellow.

Dr. Faulk has been collaborating with Purdue University researchers on a study of the mechanism that causes certain chemotherapeutic agents combined with transferrin to kill targeted cancer cells. They have discovered that the process involves transferrin receptors associated with a newly described enzyme.

Dr. Faulk's team has joined forces with the Walther Cancer Institute to prepare new drug combinations and establish the groundwork for Phase I study of their efficacy in treating cancer.

The National Cosmetology Association and the American Cancer Society have announced a national public service program called "Look Good ... Feel Better." This program deals with appearance changes sometimes caused by chemotherapy and/or radiation therapy treatments.

A special kit has been developed for hospitals and health care professionals who wish to implement this program. This kit contains a planning guide, a patient video and patient brochures. For information about this program, contact the Indiana Division of the American Cancer Society or the Indiana Cosmetology Association.

The Roswell Park Memorial Institute in Buffalo, N.Y., says the number of familial ovarian cancer cases is increasing dramatically.

In 1981, the Roswell Institute established the Familial Ovarian Cancer Registry. The criterion for inclusion is a confirmed diagnosis of two or more relatives with ovarian cancer. Between September 1987 and August 1988, 30 families, accounting for more than 87 cases, have been added to the registry. The total number of families is 176, and the number of cases is 413.

For more information or to add families to the Familial Ovarian Cancer Registry, contact Steven Piver, M.D., Department of Gynecologic Oncology, Roswell Park Memorial Institute, Elm and Carlton streets, Buffalo, NY 14263.

The National Hemophilia Foundation in collaboration with

the American Foundation for AIDS Research has published the AIDS/HIV Experimental Treatment Directory. The directory includes information on clinical trials, drugs under investigation, treatments for opportunistic infections and scientific data.

The guide provides information relevant to HIV-infected people. Each directory is updated quarterly. To obtain a copy, write National Hemophilia Foundation, 110 Greene St., New York, NY 10012.

A National Conference on Breast Cancer will be held July 19 through 21 at the Westin Hotel in Chicago. The American Cancer Society is sponsoring this threeday conference to increase health professionals' knowledge about the advances in the prevention, detection, diagnosis, treatment and rehabilitation of breast cancer.

Topics to be discussed include breast cancer cause and prevention; a review of methods for detection and diagnosis; and new approaches to breast cancer treatment and rehabilitation.

The conference is open to oncologists, primary care physicians, oncology nurses and social workers, students and other health care professionals. For more information, call the National Conference on Breast Cancer at (404) 329-7604. \square

■recent court rulings

Peer review materials protected by statute

An Indiana appellate court has upheld that state's statute protecting the confidentiality of peer review materials.

A malpractice plaintiff requested a hospital defendant to answer interrogatories and produce certain documents, and requested that the hospital administrator be directed to answer certain deposition questions, all of which were objected to by the hospital. The hospital contended that the requested information was confidential and privileged under Indiana's Peer Review statute, or involved events that were irrelevant to the plaintiff's claims. The trial court directed the hospital and its administrator to answer, and the hospital appealed.

On appeal, the plaintiff advanced five reasons why the trial court's order should be upheld:

1) the statutory privilege is lim-

ited by a "good faith" requirement; 2) the privilege was vitiated by the hospital's allegedly fraudulent activity; 3) the statute was not applicable to his case; 4) the court should apply a balancing test in determining whether to apply the statue; and 5) the hospital had waived the privilege. The appellate court rejected each of these arguments.

Although a companion statute provided immunity to people serving on or providing information to a peer review committee so long as they acted in good faith, the court found that the legislature had not intended such a good faith limitation to the privilege statute. In a similar vein, mere allegations of fraud on the hospital's part would not be sufficient to vitiate the privilege, the court said. The plaintiff would have to make a prima facie

showing of fraud, which he had failed to do here.

The court found that the statute was clearly applicable to this case and held that if the court had to balance the interests of the parties in each case, the purpose of the statute, to encourage open and candid peer review, would be thwarted. Finally, the court found that the hospital's actions could not be construed as a waiver of privilege; any waiver must be in writing, the court said.

On a separate issue, however, the appellate court found that the hospital's objections to some questions on relevancy grounds could not be sustained. Accordingly, the appellate court ordered the hospital to respond to those questions. – *Terre Haute Regional Hospital, Inc. v. Basden,* 524 N.E. 2d 1306 (Ind. Ct. of App., June 28, 1988).

Hospital did not violate its bylaws

A hospital was entitled to summary judgment in an action by a physician who claimed that it gave him insufficient notice of disciplinary proceedings against him, an Indiana appellate court ruled.

The hospital notified the physician of disciplinary proceedings based on two incidents involving surgery that he performed. The hospital bylaws in effect at the time of the first hearing required the physician be notified of the time, date and place of the hear-

ing. Although the notice he received did not notify him of the charges against him, it complied with the bylaws.

The notice of the second hearing also substantially complied with the bylaws in effect at that time because it also stated the charges against him. The private hospital substantially complied with the notice provisions of its bylaws, the court said. – *Friedman v. Memorial Hospital of South Bend, Inc.*, 523 N.E. 2d 252 (Ind. Ct. of App., May 19, 1988).

Father cannot stop abortion

The father of an unborn child could not enjoin the mother from having an abortion, the Indiana Supreme Court ruled.

A trial court granted a temporary restraining order barring the mother from having an abortion. At a subsequent hearing the court denied the request for an injunction but continued the temporary restraining order to allow time for an appeal.

On appeal, the court said the interests of the mother of the unborn child outweighed the interests of the father, and he could not prevent her from obtaining an abortion. – *Doe v. Smith*, 527 N.E. 2d 177 (Ind. Sup. Ct., Aug. 24, 1988).

recent court rulings

Technician dismissed for refusal to do AIDS tests

A laboratory technician who refused to perform tests of specimens with AIDS labels attached was dismissed for just cause, an Indiana appellate court ruled.

The technician's supervisor had discussed proper safety procedures to be used with AIDS specimens. After the discussion, the technician refused to perform tests on such specimens. She was informed that refusal would be considered insubordination and subject her to termination. When she again refused, the technician was suspended for three days.

At the end of the three days, the technician, her supervisor and the laboratory business manager met to discuss the suspension. The technician contended that she had refused to perform the tests for more than a year, and therefore, was exempt from the requirement that all employees do tests on AIDS-related materials. She said she was not concerned with safety but refused to perform the tests because "AIDS is God's plague on man and performing the tests

would go against God's will."

The laboratory had a safety manual dealing with precautions for performing tests on potentially infectious specimens. Masks, aprons, gloves and disinfectants were provided to protect workers from such specimens. Although there was no specific policy for handling AIDS specimens, the topic was discussed at inservice education seminars and meetings.

After her suspension, the technician again refused to perform tests on AIDS specimens and was discharged. When she sought unemployment compensation, benefits were denied because she had been discharged for just cause. An appeals referee affirmed the deputy's decision, as did a review board.

On appeal to the court, the technician contended that the laboratory had failed to provide a safe work place, and she was justified in refusing to perform a dangerous task. The court said the laboratory had presented evidence that it had taken proper precau-

tions to protect employees and had followed guidelines set by the Centers for Disease Control in Atlanta. There was no evidence that these precautions were not effective.

The technician testified that she had heard of workers contracting AIDS from contaminated fluids. However, she presented no evidence of how this happened. She presented only her own hearsay evidence.

The court said the review board could have reasonably found that safety was not the technician's reason for refusal to perform the tests but that it was her religious beliefs. The court found that the board did not abuse its discretion.

Further, the court found that the evidence revealed that the laboratory did not waive its right to enforce the employment contract. The court affirmed the board's decision. – Stepp v. Review Board of the Indiana Employment Security Division, 521 N.E. 2d 350 (Ind. Ct. of App., April 4, 1988).

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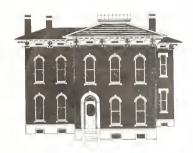
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All diplomates of the ISMA are invited to enter a professional card in the directory.

news briefs

Leukemia Society gives grant

Maureen Harrington, Ph.D., has received a three-year, \$87,000 Special Fellow Grant from the Leukemia Society of America.

Dr. Harrington is an assistant professor at the Indiana University School of Medicine and associated with Walther Oncology Center in Indianapolis. She is studying a hormone that affects the survival and growth of blood cells and how changes in the production of this hormone at the molecular level may cause certain leukemias.

Abuse resources available

The National Committee for Prevention of Child Abuse has published the second edition of its Selected Child Abuse Information and Resources Directory. The 24-page directory lists some national and a few regional resources and provides information on locating facts and services about child abuse.

A single copy is \$2 plus 50 cents for postage and handling. To order, send a check to NCPCA, attn: Publication Sales, P.O. Box 94283, Chicago, IL 60690. For information on quantity prices, write to the NCPCA or call (312) 663-3520.

CHAMPVA program changed

People eligible for health care under the Civilian Health and Medical Program of the Veterans Administration (CHAMPVA) are now being enrolled in the Defense Enrollment Eligibility Reporting System (DEERS).

The Department of Defense and the Department of Veterans Affairs have arranged to enroll in DEERS all CHAMPVA beneficiaries who have applied for benefits and have been found eligible for civilian health care.

Health law book published

Clark Boardman Company, Ltd. has published the 1989 Health Law Handbook.

The book examines the changing laws, government regulations and issues affecting the health care industry. Topics include long-term care and reimbursement, Medicare reimbursement of physicians, ambulatory health care providers, liability and AIDS, medical staff appointment and credentialing, advertising and marketing health care services and health care antitrust issues.

The price of the 668-page book is \$55. To order, call 1-800-221-9428.

Book focuses on home care

The American Medical Association has published a new edition of *Physician Guide to Home Health Care*.

The book includes articles by five physicians noted for an active home health care practice. Also featured are a profile of the home health care industry and information on home care's basic components, financing, quality assurance and access.

To purchase the book, write to Order Department OP 159, American Medical Association, P.O. Box 10946, Chicago, IL 60610-0946.

Dietitians offer services

Consulting Nutritionists in Private Practice, a practice group of the American Dietetic Association, offer professional services to physicians, the public, business and industry and the media.

The group has compiled state listings of registered dietitians in private practice who can provide nutrition counseling, wellness programs and nutrition program development. Another service is

a speakers and writers bureau.

To obtain a list of Consulting Nutritionists members, send a business-size self-addressed, stamped envelope to Consulting Nutritionists, 9212 Delphi Road SW, Olympia, WA 98502.

ACS moves to new office

The Indiana Division and the Central Indiana Area offices of the American Cancer Society (ACS) have moved their offices to expanded offices at 8730 Commerce Park Place, Indianapolis.

The Indiana Division's telephone number will remain (317) 872-4432. The Central Indiana Area office's telephone number has changed to (317) 879-4100.

The new office will house the recently activated Cancer Response System, a toll-free, in-state number to call for information on cancer and the services available through the American Cancer Society in Indiana. The system is linked to a network across the United States and to the ACS national office to provide the most recent information.

This toll-free number is 1-800-ACS-2345.

NIH plans conference

"Treatment of Destructive Behaviors in Persons with Developmental Disabilities" is the topic of a Consensus Development Conference planned by the National Institutes of Health.

The conference will be Sept. 11 to 13 at Masur Auditorium, Warren Grant Magnuson Clinical Center, National Institutes of Health, in Bethesda, Md.

For more information, write to Barbara McChesney, Prospect Associates, Suite 500, 1801 Rockville Pike, Rockville, MD 20852, or call (301) 468-6555.



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6 - Pres. Daniel P. Rains, New Castle Secy: Dennis L. Roberts, Shelbyville Annual Meeting May 9, 1990

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8 - Pres. Susan K. Pyle, Union City Secy Jerome M Leahey, Union City Annual Meeting: June 6, 1990

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people

Dr. E. Allen Griggs, a pathologist at Morgan County Memorial Hospital, was a panelist in the Indiana Continuing Legal Education Forum held April 27 through 29; he presented a lecture titled "Becoming an Expert Medical Witness and Preparing for Testimony."

Dr. Edward L. Langston, an Indianapolis family practitioner, has been appointed to the Ad Hoc Committee on Physician Involvement by the American Hospital Association board of trustees.

Dr. Steven F. Isenberg of Indianapolis was the course organizer and director for the 1989 Primary Soft Tissue Seminar held April 19 at Community Hospital in Indianapolis; speakers included Dr. James D. Miner, Dr. Robert L. Baker, Dr. Ronald C. Hamaker, Dr. Stephen W. Perkins, Dr. C. Layton Elliott, Dr. C. William Johnson, Dr. Richard J. Biggerstaff, Dr. Richard L. McCammon, Dr. George W. Hicks, Dr. Carl B. Sputh, Dr. Haroon M. Qazi, Dr. Craig R. Johnston and Dr. Edward L. Langston, all of Indianapolis, and Dr. James S. Milligan, Anderson.

Dr. Kenneth D. Shively, a LaPorte family practitioner, has been elected to the LaPorte Hospital board of directors.

Dr. Alfred A. Serritella, a LaPorte gastroenterologist, has been elected to the Lakeland Health Corp. board of directors.

Dr. Robert Moses, a Worthington family practitioner for more than 40 years, was honored for his service at a reception April 23 by relatives, friends, patients and medical associates.

Dr. Frank W. Teague, an Indianapolis orthopedic surgeon, was honored as Manual High School's 28th alumnus of the year at the school's 94th anniversary celebra-

Dr. Patricia A. Keener, an Indianapolis pediatrician, has been elected president of the Day Nursery Association of Indianapolis.

Dr. James T. Howard of Bloomington recently completed an extensive review course, 35 hours of continuing medical education credit, in obstetrics and gynecology pathology given by the Harvard Medical School in Boston.

Dr. Ernest E. Smith of Indianapolis has been named developmental pediatrician for Crossroads Rehabilitation Center.

Dr. William A. Blume, an Evansville family practitioner and medical director of Deaconess Hospital's Recovery Program, has passed the certification examination of the American Medical Society on Alcoholism and Other Drug Dependencies.

Dr. Frederick H. Evans, an Indianapolis otolaryngologist, recently received an honorary doctor of humanities degree at the 183rd commencement ceremonies at Vincennes University.

Drs. Shahid Athar and M. Rashid Khairi, both Indianapolis endocrinologists, and Dr. George Klutinoty, a Carmel family practitioner, have been named to the medical advisory committee of the St. Vincent Diabetes Management Center.

Dr. William R. Vaughn, a Vincennes urological surgeon, recently was certified by the American Board of Urology.

Dr. Ted H. Gabrielsen, a Greenfield surgeon, attended the annual scientific session and postgraduate course in Endoscopic Management of Gastrointestinal Bleeding in Louisville, Ky. 🗖

New ISMA members

Alex D. Antalis, M.D., Fort Wayne, emergency medicine. George M. Coffey, M.D., Zi-

onsville, anesthesiology.

J. Valentine Corcoran, M.D., Indianapolis, internal medicine.

James Fitko, M.D., Fishers, emergency medicine.

R. Brent Furbee, M.D., Fishers, emergency medicine.

James L. Gahimer, M.D., Indianapolis, internal medicine.

Joe G. N. Garcia, M.D., Indianapolis, internal medicine.

Robert M. Ghrist, M.D., Indianapolis, internal medicine.

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Elliot M. Gross, M.D., Crown Point, anatomic/clinical pathol-

John A. Hoehn, D.O., Schererville, family practice.

Thomas A. Hughes, M.D., South Bend, cardiovascular sur-

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orthopedic surgery.

Patrick C. Kippenbrock, M.D., Indianapolis, anatomic/clinical pathology.

Eric J. Lehman, M.D., Paoli, emergency medicine.

Nancy P. Lipson, M.D., Indianapolis, physical medicine & rehabilitation.

Thomas A. Malone, M.D., Indianapolis, neonatal-perinatal medi-

David M. Mandelbaum, M.D., Indianapolis, general surgery.

William J. Martin II, M.D., Indianapolis, pulmonary diseases.

Steven A. Norris, M.D., Indianapolis, internal medicine.

Ruth Anne O'Keefe, M.D., Indianapolis, orthopedic surgery. Frederick J. Rescorla, M.D., In-

people

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Jorge A. Tramontana, M.D., Monticello, general surgery.

Bruce W. Van Natta, M.D., Indianapolis, plastic surgery.

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Lowell M. Weiner, M.D., Indianapolis, pediatrics.

Residents

Kenneth K. Aden, M.D., Indianapolis, otolaryngology.

Mark D. Clark, M.D., Indianapolis, anesthesiology.

Carol D. Greenspan, M.D., Indianapolis, anesthesiology.

Robert G. Huber, M.D., Indianapolis, anatomic/clinical pathology.

Mary D. Mahern, M.D., Beech Grove, family practice.

Scott M. Parker, M.D., Indianapolis, anatomic/clinical pathology.

Kenneth L. Renkens Jr., M.D., Indianapolis, neurological surgery.

Jeffrey S. Riesmeyer, M.D., Indianapolis, cardiovascular diseases.

Rick A. Robertson, M.D., Indianapolis, psychiatry.

Stephen B. Sexson, M.D., Indianapolis, orthopedic surgery.

Pĥilip W. Woodbury, M.D., Beech Grove, urological surgery. 🖵



"But you said you weren't going to ask me one more time to pay my bill before I left the office."

Physician Recognition Award recipients

The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.

Angel, Virgil E., Highland Bankoff, Milton L., Michigan City Batterton, Owen A., Bloomfield Beck, Gary L., Evansville Black, M.J., Brownsburg Brown, Timothy N., Crawfordsville Castor, Conrado P., Schererville Cespedes, Carlos A., Griffith Clarkson, Clarence G., Richmond Clutter, Robert E., Indianapolis Connerly, Patrick W., Fort Wayne Dunevant, Don S., Portage Elliott, Edward F. Jr., Carmel Ferenczy, Alexander, Bloomington Fields, Max L., Monticello Fischer, A. Alan, Indianapolis Geneczko, John T. Jr., Lafayette Graham, James C., Fort Wayne Haste, John L., Argos

Hastings, Richard A., Elkhart Hirons, W.T., Richmond Hodonos, Phillip E., Michigan City Huber, Richard G., Bedford Judge, Robert E., Berne Kho, James B., Terre Haute Mayrose, Richard S., Terre Haute Miller, Donald C., Cedar Lake Nicholson, Raymond W., Evansville Pease, James L., Franklin Penn, Robert A., Lake Station Perkins, Stephen W., Indianapolis Peterson, John C., Muncie Pletzer, David, Noblesville Ragsdale, Rex H., Newburgh Rahdert, Richard F., West Lafayette Rausch, Marilyn S., Indianapolis Reidy, James E., Mishawaka Ringer, William A., Williamsport Robison, Roger F., Terre Haute

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obituaries

Eugene F. Boggs, M.D.

Dr. Boggs, 87, a retired Indianapolis general practitioner, died May 20 at Southside Health Care Center in Indianapolis.

He graduated from the Indiana University School of Medicine in 1926 and was an Army veteran of World War II.

Dr. Boggs was president of the St. Francis Hospital Center in 1944 and had served on the staffs at St. Francis, University Heights, Methodist and St. Vincent hospitals.

He retired in 1981.

Russell A. Gardner, M.D.

Dr. Gardner, 79, a retired Michigan City obstetrician, died April 27 in Rochester, Minn.

He graduated from the University of Iowa Medical School in 1933 and was a U.S. Army medical officer during World War II.

Dr. Gardner was a founding fellow of the American College of Obstetricians and Gynecologists and a fellow of the American College of Surgeons, the International College of Surgeons and the American Society of Abdominal Surgeons. He was certified by the American Board of Obstetrics and Gynecology.

Murray E. Harden, M.D.

Dr. Harden, 73, a retired Lafayette obstetrician and gynecologist, died April 14 in Indiana Veterans Home.

He was a 1941 graduate of the Indiana University School of Medicine and served as a major in the Army Medical Corps during World War II.

Dr. Harden was on the staffs at St. Elizabeth and Home hospitals and was a member of the American College of Obstetricians and Gynecologists. He was named a Sagamore of the Wabash in 1978.

St. John Lukemeyer, M.D.

Dr. Lukemeyer, 92, a retired Jasper physician, died May 25.

He was a 1922 graduate of the Indiana University School of Medicine and on staff at the Dubois County Memorial Hospital.

Dr. Lukemeyer was a member of the Fifty-Year Club of American Medicine and the Dubois County Medical Society. He practiced for 67 years, 63 of which were in Jasper.

Ott B. McAtee, M.D.

Dr. McAtee, 86, former superintendent at Madison State Hospital, died April 18 at a Madison nursing home.

He was a 1937 graduate of the Vanderbilt University School of Medicine and served as an Army psychiatrist during World War II.

Dr. McAtee was superintendent of Madison State Hospital from 1952 until his retirement in 1979. The hospital named a new, 100-bed adult psychiatric center in his honor in 1987. He was an authority on Huntington's disease and also worked to reduce the stigma of mental illness.

In 1978, he received a special

award for his achievements from the American Associaton of Psychiatric Administrators. The American Psychiatric Association named him a Life Fellow for his 30 years of membership.

Charles H. Proudfit, M.D.

Dr. Proudfit, 78, a retired Mishawaka obstetrician and gynecologist, died May 18 at Bremen Hospital.

He was a 1934 graduate of the Indiana University School of Medicine and an Army Medical Corps veteran of World War II.

Dr. Proudfit was a founding fellow of the American College of Obstetricians and Gynecologists and served as treasurer of the U.S. Section of the International College of Surgeons from 1968 to 1978. He was certified by the American Board of Obstetrics and Gynecology.

Dr. Proudfit retired in 1979.

Harry W. Salon, M.D.

Dr. Salon, 88, a retired Fort Wayne physician, died May 1 at St. Joseph Medical Center in Fort Wayne.

He was a 1925 graduate of the University of Michigan Medical School and a Navy veteran of World War II.

Dr. Salon was one of the first physicians to use penicillin in the United States. A past president of the medical staff of St. Joseph Medical Center, he practiced for 52 years before retiring in 1978.

■ obituaries

Frederic Spencer, M.D.

Dr. Spencer, 74, Vincennes, died May 10 in Hilton Head, S.C., where he was attending a medical meeting.

He was a 1937 graduate of the Indiana University School of Medicine.

Dr. Spencer, who practiced medicine in Vincennes since 1940, had delivered more than 8,000 babies. He was a member of the American College of Obstetricians and Gynecologists.

He had received the Distinguished Christian Service Award from the Vincennes Kiwanis Club and the Outstanding Young Man of the Year Award from the Jaycees.

In memoriam: Kenneth L. Olson, M.D.

Dr. Olson, 82, who served as president of the Indiana State Medical Association from 1958 to 1959, died April 30 in Evanston (Ill.) Hospital.

He was a 1933 graduate of the University of Minnesota Medical School.

Dr. Olson, who practiced medicine in South Bend from 1942 to 1976, served as president of the Indiana Roentgen Ray Association and the St. Joseph County Board of Health.

He was a member of the Radiological Society of North America and the American College of Radiology and was certified by the American Board of Radiology.



1959 file photo

Dr. Kenneth L. Olson

ISMA members, mark your calendars!

WHO: All ISMA members

WHAT: 140th Annual ISMA Convention

WHEN: Oct. 27-29, 1989

WHERE: Westin Hotel in downtown Indianapolis

- In addition to the annual meeting of ISMA's House of Delegates, other special programs have been planned.
- ISMA again will host a theme reception Friday between reference committee meetings. This year's theme is a "Hawaiian Luau," featuring special entertainment and cuisine.



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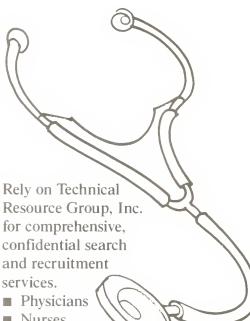
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Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

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Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications

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References:

- 1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981
- 2. Goodman, Gilman The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
- 3. Weekly Urological Clinical letter, 27:2, July 4,
- 4. A. Morales et al., The Journal of Urology 128 45-47, 1982

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■the human side

Making committees work

Arthur R. Pell, Ph.D. Consultant, Dale Carnegie & Ass.

There's an old joke that says that a camel is a horse created by a committee. As long as there have been committees, they have had a reputation of not really being effective. Yet, often old aphorisms provide conflicting messages. Are committees made up of "too many cooks who spoil the broth", or do they benefit because "two heads are better than one?" Let's look at what can be done to make the committees on which we serve accomplish the mission for which they were created.

Establish clear and understandable goals

When Leonard Blackman was appointed to chair a committee consisting of three other executives and himself to find a suitable location for a branch warehouse, he called a meeting to set specific goals and timetables. Rather than dictate these to his people, he conducted a participative planning session. Each of the members contributed ideas and together they came up with a workable plan. Because each of the committee members was involved in the planning, the goals were not only clear to each of them, but the entire group was committed to their accomplishment.

Every member of the committee should be given a specific assignment. The chairperson should learn the strengths and specific areas of expertise of each of the members and utilize these assets in making the assignments. Leonard Blackman had the advantage of knowing each of his team as they had worked together for some time and was able to give each of them meaningful assignments in areas where they could contribute most effectively. However, if you chair a committee where some or all of the members are virtual strangers, learn as early as possible about each of them. When Carol Cole was appointed to chair a PTA committee to study and make recommendations on the development of a program for more parent participation in classroom activities, she had only a casual acquaintance with most of the members. She made a point to meet with each of them privately over the first few weeks to find out where they could do the most good. At the second meeting, she was not only able to make wise appointments, but as a result of these personal discussions, encouraged many of them to volunteer to take on significant aspects of the project.

Once the assignment is made, ask each of the committee members to develop a plan and timetable for his or her function. These should be put in writing and submitted to the chairperson at the next meeting. To assure that the plan is being timetable met, a follow-up system should be established. Leonard's committee's goal was to find the location and arrange for the leasing of the facility within three months. So each of his members had to have the plans for his or her assignment ready two weeks from the first meeting. Followup discussions with each of the members were scheduled during the two week period after the second meeting and a third full committee meeting was scheduled at the beginning of the second month.

Carol's project was much longer. Her committee had a six month deadline. Inasmuch as Carol's group consisted of nine people, she created three sub-committees for the three major aspects of the project and arranged to meet with each subcommittee once during the first and second month. Monthly meetings were scheduled for the entire committee to report and to share their ideas and accomplishments.

Resolving Disagreements

Whenever several people are involved in a project, there

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will likely be some disagreements. It is the responsibility of the chairperson to resolve them. Carol faced this at her first meeting with a sub-committee. Two of the members agreed on a plan of action, but the third member firmly opposed it. Logically, a two to one vote might be used to choose the plan, but Carol recognized that it was necessary to win the full cooperation of the third member if the plan were to succeed. She asked the dissenter to express her reasons for opposing the majority and listened carefully. She encouraged the others to think about these objections and together they were able to reach a consensus and develop a plan to which all could commit themselves.

Committee Reports

Once each of the members or sub-committees has completed the assigned work, the results are presented to the entire committee. These are discussed and final decisions or recommendations are made. Usually, a full report must be developed for submission to the person or persons to whom the committee is responsible. In most committees this is the end of the assignment. However, in some cases the committee may be responsible for implementing the action

Carol Cole's committee had to submit a detailed report to the PTA Board. Inasmuch as each of her sub-committees had investigated a different aspect of the subject, she asked for written reports from each of them. After they had been discussed in the entire committee and decisions were made, the sub-committee revised their reports to reflect these decisions. Carol appointed one of the members to write the draft of the committee report. This was carefully reviewed and edited and copies sent to each of the committee members. At the final meeting of the committee, the report was approved.

Leonard Blackman's committee worked somewhat differently. Each of the members had been given a different aspect of the assignment. One member had studied traffic patterns, another cost factors and the third community desirablity. Once this specialized information was obtained, several meetings were held to discuss the entire problem. From these a final recommendation and report was written. All the members contributed to the report and it was put into final shape by the chairperson. But this was not the end of the assignment. After the written report was submitted, Leonard had to meet with his bosses to answer questions and defend some of the recommendations. Knowing that this was usual in these circumstances, the committee planned for the oral presentation and for questions or objections that might be raised. As a result Leonard was fully prepared to make a full presentation, answer questions and rebut objections.

Successful committee work requires careful planning, assigning each of the aspects of the work to people who are competent, getting all of the members involved and following up to assure that what is planned and assigned is done. When you get each member to participate from the planning stage to the final report, then the work of the group will go smoothly and the mission of the committee will be effectively accomplished.

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Warnings: Use with caution in patients with history of unnary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving)

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Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady - state concentrations of the tricyclic drugs Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric*: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neuro*logic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. Endocrine: Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. Other: Headache, weight gain or loss, increased perspiration, unnary frequency, mydriasis, jaundice, alopecia, parotid swelling

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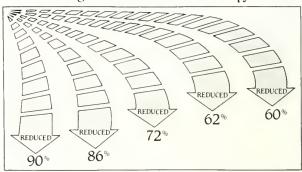
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VOMITING NAUSEA HEADACHE ANOREXIA CONSTIPATION *Patients often presented with more than one somatic symptom.

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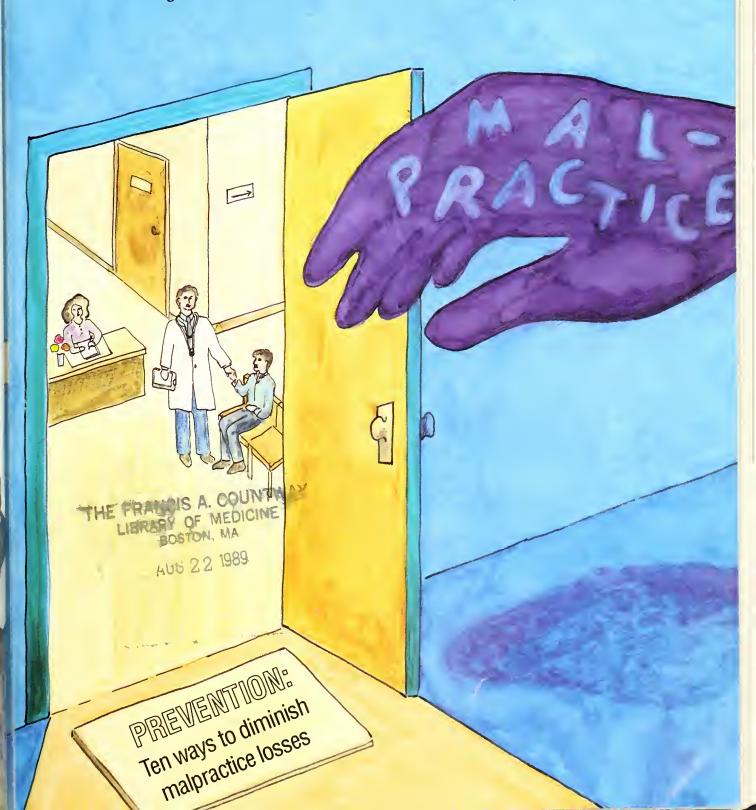


INDIANA MEDICINE

The Journal of the Indiana State Medical Association

August 1989

Vol. 82, No. 8



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INDIANA

The Journal of the Indiana State Medical Association

August 1989

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AUG 22 1989



AMA adopts resolution on expenditure targets

Government-proposed expenditure targets (ETs) dominated discussion at the annual meeting of the AMA House of Delegates. ETs are government-set expenditure goals for total physician services under Medicare Part B. The U.S. House Ways and Means Committee has approved an ET proposal. The Senate Finance Committee now is considering its own version of an ET proposal. In response to these proposals, the AMA House of Delegates adopted a resolution on the issue. The resolution reaffirms the AMA's willingness to participate in efforts to control the cost of Medicare and urges Congress to incorporate the following considerations when applying budgetary controls to Medicare in place of expenditure targets: 1) Assure a high priority to health care for Medicare patients in relation to other programs when allocating federal funds; 2) Given Medicare's finite resources, develop a mechanism to channel those resources to those patients with greater financial need and require a proportionately larger financial contribution by the more affluent toward their own health care; and 3) Reduce the cost of defensive medicine (approximately \$20 billion a year) caused by the present tort system.

Resident Medical Society sponsors two events

The Resident Medical Society of the ISMA is sponsoring two events in the coming weeks. The Practice Opportunity Fair will be from 7 to 10 p.m. Wednesday, Aug. 30, at the Sheraton Meridian Hotel, 2820 N. Meridian, Indianapolis. The session is designed to acquaint physicians with hospitals and other health care facilities that have practice opportunities. "Starting Your Practice" and "Joining a Partnership or Group Practice," a joint seminar, will be offered Friday, Sept. 8, and Saturday, Sept. 9, from 8:30 a.m. to 5 p.m. each day at the St. Vincent Hospital Professional Building, 8402 Harcourt Road, Indianapolis. The seminar will be conducted by the AMA's Department of Practice Management. For information, call (317) 925-7545 or 1-800-382-1721.

General Assembly interim study committees meeting

Interim study committees of the Indiana General Assembly are meeting through October to study a variety of issues and make recommendations and propose legislation for the 1990 legislative session. The study committees that the ISMA will monitor and the topics they will discuss are: 1) health occupations – licensure of denturists, social workers and nurses, admissions to substance abuse centers, certification requirements for substance abuse counselors and the nursing shortage; 2) insurance issues – unfair insurance claim settlement practices, costs of group health insurance for public employees and infertility insurance coverage; and 3) civil and criminal law issues – all statutes that confer immunity from liability and all aspects of the forensic use of DNA. \square

what's new

Hewlett-Packard Co. has introduced an enhanced model of the HP SONOS 500, a 64-element, phased-array, ultrasound-imaging system designed for comprehensive cardiac diagnosis. The system offers an overall improvement in diagnostic-imaging performance, steerable pulsed- and continuous-wave Doppler and highly sensitive next-generation HP color flow imaging.

TransTek and Instrumentarium/Ausonics have developed a new mobile magnetic resonance imaging system. The Mobile Magnaview can cost effectively service even remote rural communities. In most situations, the Magnaview technologist can drive the coach, eliminating the need for a specially licensed driver.

Ross Laboratories has announced the availability of GLUCERNA* Specialized Nutrition with Fiber for Patients with Abnormal Glucose Tolerance. GLUCERNA is the first commercially available enteral formula designed to enhance blood glucose control when used as a nutritional component of therapy in patients prone to elevated blood glucose levels (types 1 and 11 diabetes mellitus or stress-induced hyperglycemia).

Hermal Pharmaceutical Laboratories has announced the availability of ELASTYREN hypo-allergenic surgical gloves. The gloves are manufactured in Denmark from a soft, white thermoplastic material that does not contain metal oxides, sulfur, mercaptobenzothiazole or other troublesome sensitizers. They are radiation-sterilized and available in pouches of 10 pairs or cases of 100 pairs.

Dazor Manufacturing Corp. has introduced its new line of medical examination lighting. Model 6004-A offers a 20-watt halogen lamp that is energy-efficient, with a bulb life of 2,000 hours. Model 1069-A is an incandescent lamp engineered with a dual-chambered reflector that allows aircooled comfortable handling.

Hewlett-Packard has introduced a series of disposable temperature probes for monitoring body temperature in the operating room, intensive care unit, coronary care unit and emergency room. The probes are designed for monitoring temperature in high-risk medical situations associated with hypothermia and hyperthermia, particularly malignant hyperthermia.

Wampole Laboratories has developed a new Zeus Scientific Lyme ELISA test system for in vitro diagnostic use. The system uses a 96-well microtiter tray format featuring breakaway wells coated with a highly purified strain of *B. burgdorferi*.

Med-Group 9, Inc. and Lechler, Inc. have introduced a new patient humidifier that operates as a totally sterile unit and requires no introduction of air sources for

News of what is new in the medical supply industry is composed of abstracts from news releases. Each item published does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

atomization and no patient mask. The Hydramed sterile humidifier eliminates the possible dehydration in the patient's mouth, throat and respiratory areas and the risk of contamination from air blowers and compressors.

Wampole Laboratories now offers a simple and rapid procedure for the detection of *H. influenzae b, N. meningitidis* A/B/C/Y/W135, *S. pneumoniae* and Group B *Streptococcus* antigens directly from blood culture fluid. The new Bactigen[™] Meningitis latex procedure is simple to perform and provides accurate results in less than 30 minutes.

Diasonics has unveiled its new Spectra™ Ultrasound System. Spectra™ has a Frequency Domain Imaging capability, which enables the operator to control the frequency receiving function of image processing. The system optimizes contrast and spatial resolution.

Siemens Medical Systems, Inc. offers a MEVASIM S universal radiation therapy simulator that gives radiation therapists the opportunity to reproduce the motions and positions of both the therapy equipment and the patient in a mock treatment procedure for precision control of therapy beams and exact patient position. Diagnostic x-rays simulate treatment beams, and radiographic and fluoroscopic systems make the beams visible. This feature allows the therapist to examine the geometrical relationship of the beams to the patient before actual treatment and is invaluable for verification of implant positions in brachytherapy procedure. 🖵



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■cme calendar

Methodist Hospital

Methodist Hospital in Indianapolis will sponsor the following events in August and September:

Aug. 18-20- Immunologic Obstetrics Symposium,

Methodist Hospital

Auditorium, Indianapolis.

Sept. 8-9 – Advanced Trauma Life Support, Methodist Hospital Wile Hall, Indianapolis.

For information, call Dixie Estridge, CME coordinator, at (317) 929-3733.

Indiana University

The Indiana University School of Medicine will sponsor the following courses in September and October:

Sept. 21 – Gastroenterology Update 1989, University Place Executive Conference Center and Hotel, Indianapolis.

Sept. 20-23 – Úpdate in Cardiology: Cardiovascular Board Review, Indiana Convention Center, 100 S. Capitol Ave., Indianapolis.

Oct. 6 - Oncology Conference, University
Place Executive Conference Center and
Hotel, Indianapolis.

Oct. 10-11 – 17th Annual Fall Symposium: Care of the Seriously Ill Child, University Place Executive Conference Center and Hotel, Indianapolis.

Oct. 12 – American Medical Student Association, Health Expo '89, University Place Executive Conference Center and Hotel, Indianapolis.

Oct. 12-14 – Robert A. Garrett
Fall Visiting Professorship and Indiana
State Urologic Meeting, University Place
Executive Conference Center and
Hotel, Indianapolis.

For information, call Melody Dian at (317) 274-8353.

The Indiana University School of Dentistry will present "Recognition and Differential Diagnosis of Temporomandibular Joint Disorder" Sept. 29 at the University Place Executive Conference Center and Hotel in Indianapolis.

St. Vincent Hospital

St. Vincent Hospital in Indianapolis will sponsor the following programs in September:

Sept. 8 - Practice Management Workshop, St. Vincent Conference Center, Indianapolis.

Sept. 17-18– Ultrasound Registry Review, St. Vincent Hospital, Indianapolis

Sept. 22-23- Gynecology Handson Laser Course, St. Vincent Hospital, Indianapolis.

Sept. 29 – 14th Ânnual Arthur B. Richter Lectureship in Clinical Cardiology, John W. Kirklim, M.D., lecturer, Indiana Roof Ballroom, Indianapolis.

For information, call Marilyn Soltermann at (317) 871-3460.

St. Mary's Medical Center St. Mary's Medical Center in Evansville will sponsor the following continuing medical education courses in September and October:

Sept. 14 - The Joseph E. Coleman Pediatric Seminar, Adolescent
Medicine, 1 p.m., St.
Mary's Medical Center Amphitheatre,
Evansville.

Oct. 12 – Laser Medicine Seminar, 1 p.m., St. Mary's Medical Center Amphitheatre, Evansville.

For more information, call St. Mary's Medical Center at (812) 479-4468.

Community Hospitals

Community Hospitals Indianapolis will sponsor the following continuing medical education courses in August and October:

Aug. 25-26 Rehabilitation of the Brain Injured Adult, Marriott Hotel, 21st and Shadeland, Indianapolis.

Oct. 13 – Third Annual Sleep-Wake Disorders
Symposium, Marriott
Hotel, 21st and
Shadeland, Indianapolis.

For more information, call Carolyn Roeder, administrative assistant, at (317) 353-4269.

University of Wisconsin

The University of Wisconsin Medical School and the Wisconsin Allergy Society will sponsor the "1989 Update in Allergy and Clinical Immunology" Oct. 12 and 13 at the University of Wisconsin Hospital in Madison, Wis.

For more information, call Sarah Aslakson at (608) 263-2856.

The Indiana University School of Dentistry Invites You to Attend a Seminar:

I.U. School of Dentistry TMJ Disorders Seminar

September 29, 1989

at the

University Place Conference Center Indiana University-Purdue University at Indianapolis

Faculty members representing the IU dental school's departments of Dental Diagnostic Sciences and Oral and Maxillofacial Surgery will host a one-day seminar and discussion of disorders of the temporomandibular joint and how these disorders relate to other types of orofacial pain. The course outlines the clinical signs and symptoms of myofascial pain dysfunction and disc displacement problems, as well as the supporting radiographic features and therapeutic modalities used in treatment.

Course Outline

Morning Session

- · Differential Diagnosis of Orofacial Pain vs "TMJ" Pain
- MPD (Myofascial pain dysfunction) Explained
- Radiographic Interpretation of TMJ Disorders

Afternoon Session

- Conservative Treatment Modalities (Pharmacotherapy, physiotherapy...)
- Arthroscopy Treatment of the TMJ

Clinicians

Dale A. Miles, DDS, MS

Associate Professor and Director Graduate Program, Dental Diagnostic Sciences

Steven L. Bricker, DDS, MS Associate Professor and Chairman Dental Diagnostic Sciences Charles L. Nelson, DDS

Associate Professor of Oral and Maxillofacial Surgery (School of Dentistry), and

Plastic Surgery (School of Medicine)

Joseph Heldelman, DDS

Assistant Professor Oral and Maxillofacial Surgery

Cost

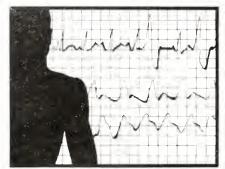
\$95 (includes coffee breaks and luncheon)

For Information Call:

Dr. Donald Arens
IUSD Director of Continuing Education
(317)274-7782

The Indiana Poison Center:

A valuable resource for Indiana physicians



ADULT CRITICAL CARE MEDICINE

Methodist Hospital OF INDIANALING

Mary Joan Beckerich, B.S.N., M.S. James B. Mowry, Pharm. D. R. Brent Furbee, M.D. Indianapolis

The telephone is the link! With it, the evaluation and treatment of a poison emergency can begin. The caller? A frantic mother ... a busy critical care nurse ... an emergency physician.

They are calling the Indiana Poison Center (IPC), a statewide regional information service where emergency calls are taken 24 hours a day, seven days a week. The phones are answered by specially trained poison information specialists, all of whom are critical care nurses (*Table 1*). Advice is given to the caller based on each individual case history according to IPC protocols and information from current literature. All data are recorded, but patient information is considered confidential.

It hasn't always been this way. Historically, the poison center concept emerged in the mid 1950s because of a need to consolidate information about drug, chemical and environmental toxins. By the early 1960s, more than 600 poison centers had developed across the nation; however, there was no direction or coordination between them, nor were they distributed geographically among the population.\(^1\) Most of these centers operated out of a hospital emergency department. Calls were answered

by emergency medical staff with little or no training and variable qualifications in the specialty of toxicology. Advice given was at times inappropriate and inconsistent.¹

By the early 1970s, there was a growing concern for the quality of services provided by poison centers. Regionalization was seen by many as an answer to the problems noted above.²⁻⁸

The modern regional poison center is armed with automated poison management information systems and is able to accumulate information through collective experiences. Done has found the regional center can handle more than 85% of its cases by advising home treatment with follow-up alone, while an inferior center might refer close to 80% of its cases to an emergency department or to a private physician.3 With emergency department costs soaring, the estimated cost for handling each poison call is only between \$6 and \$10.2 At a time when emergency visits are at an all-time high, this also eases the burden on the beleaguered emergency staff.

Regional centers such as IPC are encouraged to become accredited by the American Association of Poison Control Centers (AAPCC). In order to do so, standards and criteria must be met. Indiana has been accredited as a regional poison center by meeting the following criteria⁴:

Table 1

Indiana Poison Center staff

Medical director
Director
Poison information specialistsLynn Ballentine, R.N. Sabra Barrett, R.N., CPIS* Jo Beckerich, B.S.N., M.S. Gwenn Christianson, R.N. Sheryl Clephane, B.S.N. Warren Patitz, R.N. Jane Payton, R.N. Laura Smith, R.N. Janet Stockbridge, B.S.N. Elliott Taylor, R.N.
Steven Worster, B.S.N., CPIS* Secretary Beth Kiel

*AAPCC certified poison information specialist

1) A geographically defined region with a population base of 1,000,000 to 10,000,000; 2) Regional poison information services – continuous availability, comprehensive information, written protocols and qualified staff; 3) Regional treatment capabilities – knowledge of medical facilities within region, comprehensive analytical toxicology services and patient transport facilities; 4) Regional data collection – medical records, participation in large-scale data collection programs, regional tabulation of experience; and 5) Education programs for health professionals and the public.

The IPC serves Indiana through its local hospitals and health care professionals. Nurses and physicians are encouraged to call the IPC for information and treatment recommendations in any potential drug or poisoning case. Calls also are welcomed concerning medicines, drug interactions, animal exposures and help with poison prevention education.

At times, a health care facility may initiate contact with the poison center. In most cases, however, a patient or a family member calls the center to report an exposure. When patients are referred to hospitals for evaluation or treatment, they are instructed to go to the nearest hospital or the hospital of their choice. The poison information specialist then notifies the hospital to which the patient is being referred.

The purpose of contacting the hospital is to inform

the emergency department that a patient is in route and to offer treatment recommendations as needed. These recommendations come from the computer database, which includes Poisindex, and from an extensive library of texts and other printed materials. It is supplemented by medical backup from board-certified emergency physicians and a doctor of pharmacy. These people can assist with decision-making in patient management. The center also maintains a list of specialists in such areas as pediatrics, critical care, occupational medicine and clinical toxicology. Other specialists include mycologists to assist in mushroom identification, entomologists and herpetologists.

The primary objective of the poison center is to provide a broad base of information. In 1987, the IPC received 58,567 requests for assistance, averaging 160 calls per day (*Figure*). Of these calls, 44,746 concerned exposures to poisons, 11,665 were seeking information without an exposure, and 2,112 were for poison prevention information or administrative in nature. This total represents approximately one call for every 90 Hoosiers.

These 44,746 calls resulted from 38,153 poison exposures, as repeat calls were received in numerous cases. Ninety-four percent of exposure calls originated in Indiana, with additional calls from 13 other states.

About 14% of the calls handled by the IPC come from health care providers. In 1987, approximately 4,000 calls originated from hospitals. Of 38,153 cases that year, 9.4% were referred to a health care facility. Of those referred, 12.8% were admitted to hospitals. Eleven deaths were reported to the poison center in 1987 due to accidental or intentional poison exposure.

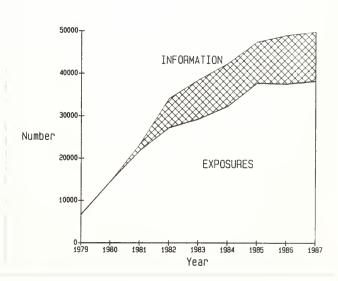


Table 2

Top 10 poison exposures

Child	
Cosmetics and personal care products	3,081
Household cleaning substances	
Plants	
Analgesics	
Cold and cough preparations	
Topical drugs	
Foreign bodies	
Vitamins	
Hydrocarbons	
Antimicrobials	
Intentional Analgesics	1 404
Sedative/hypnotics/anti-anxiety/antipsychotics	
Plants	454
Alcohols	
Cold and cough preparations	
Household cleaning substances	
Antidepressants	
Cosmetics and personal care products	
Stimulants/street drugs	
Antimicrobials	

Fifty-seven accidental deaths due to poisoning were reported in 1986, down from an average of 126 per year before 1979.

In addition, the poison information specialists make follow-up calls on any toxic exposure to determine patient progress and outcome. This information is necessary for poison center personnel to confirm that their recommendations and information were accurate and appropriate. The need for such follow-up is well-documented. In one study, additional treatment recommendations during a follow-up call were required in 21.2% of cases.⁵ The follow-up calls allow the poison center to maintain a database in order to impart information to the

health care provider. By doing so, the center can inform the physicians, nurses and paramedical personnel of the agents most often involved in poisoning, what age groups are affected and what clinical outcome may be expected.

Information is recorded on the Poison Center Report Form designed by the AAPCC, and phone conversations are recorded and stored for 30 days. All information obtained from the health care provider and the public is held in strictest confidence. Charts may be reviewed only by the poison information specialists, the director and the medical director and are treated as medical records.

Another objective of the IPC is to provide education in poison

management. A one-month rotation currently is offered to emergency medicine residents and doctor of pharmacy students, and educational programs are sponsored year round by the IPC. IPC personnel teach health care professionals basic and advanced techniques in the management of poison emergencies and provide assistance, consultation and programs in teaching poison prevention to private citizens. Professional education activities include the Annual Regional Toxicology Symposium, TOXI-GRAM, a quarterly education bulletin, and numerous in-services and lectures.

The IPC has been joined by the Indiana Poison Awareness Council, member hospitals, member physicians and Hook Drugs in teaching poison prevention to Hoosiers through educational programs, brochures, TOXIC TRIVIA, a newsletter, and promotions for children and adults. This long-term cooperative effort maintains a statewide poison prevention education program and bolsters the efforts of the IPC to reduce death and injury from poisoning.

Poisonings remain a major health hazard among young children. Children under six years of age account for about 71% of the poisonings managed by the IPC. Although the incidence of poisoning is greater in children, most severe poisonings and poisoning deaths occur in adolescents and adults.

Examination of calls where sex is documented shows a slight male predominance (51.4%) for all cases, with males predominating in childhood and females predominating in adolescent and adult age groups.

More than 86% of calls to the

IPC are placed by the public. Most exposures are accidental, but 17% are intentional. Calls about exposures in the workplace are becoming more frequent, occurring in more than 2% of cases. Three-quarters of the IPC's poison exposures either require no treatment or can be treated safely at home.

Most common home treatments include ipecac for oral exposures and flushing or irrigating the skin or eyes for ocular exposures. Only 20% of the cases are treated in a health care facility, and half of those are referred to the health care facility by the poison center.

Death or major toxicity were seen in only 11 and 85 patients respectively. Antidepressants and stimulants were the most common intoxicants responsible for death.

Decontamination

Prescription and nonprescription drugs account for 42% of exposures, and household products account for an additional 40%. The types of toxins differ markedly between child and intentional exposures (*Table 2*).

Supportive care and decontamination remain the most critical components in the care of poisoned patients. Additional therapeutic methods, such as antidotal therapy and enhanced elimination, are used less frequently (*Table 3*).

The IPC staff also welcomes calls when there has been no exposure. In 1987, the center responded to 11,665 such inquiries from health professionals and the general public. Information calls were fielded about toxicity, product tampering and recalls, animal

Number

poisonings, food poisoning and first aid measures.

The IPC is indebted to the medical professionals of Indiana for their continued support and cooperation in poison prevention and treatment. The IPC can be reached 24 hours a day at 1-800-382-9097 or 929-2323 in the Indianapolis area.

From the Indiana Poison Center, Methodist Hospital of Indiana, Indianapolis.

Correspondence and reprints: Mary Joan Beckerich, Indiana Poison Center, 1701 N. Senate, P.O. Box 1367, Indianapolis, IN 46206.

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Table 3

Decontamination methods

Decontamination	Number
Syrup of ipecac	4,428
Activated charcoal	1,779
Cathartic	1,580
Gastric lavage	738
Dilution	23,714
Irrigation/washing	16.221
Fresh air	744
Other	413
Antidotal therapy	532
Enhancement of elimination	
Peritoneal dialysis	1
Hemodialysis	10
Hemoperfusion	6
A TEATO PELLOUDIT IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	

Radiology Clinic:

Abnormal bones in a 25-year-old man

M. Patricia Braeuning, M.D. Indianapolis

A 25-year-old man of Mediterranean descent arrived at the emergency room and complained of increasing dyspnea on exertion.

He was jaundiced with stunted growth and wide-set eyes. Physical exam revealed a Grade IV holosystolic murmur with a thrill, bounding pulse and hepatosplenomegaly. Laboratory exam showed a hemoglobin of 3 g/dL, hematocrit of 9%, mean corpuscular volume of 77 fl and a reticulo-

cyte count of 3.1%. Iron studies were normal. Liver function tests were normal with the exception of an elevated bilirubin (T.B. = 1.9 mg/dL). Hemoglobin electrophoresis showed no hemoglobin A, 3% hemoglobin A2 and 97% hemoglobin F. Radiographs of the chest and lumbosacral spine were obtained.

Radiographic findings

The chest film shows cardiomegaly expansion of the ribs with cortical thinning and osteoporosis. The lumbosacral spine film shows osteoporosis with ac-

centuation of the trabeculae of the vertebral bodies. These findings are secondary to expansion of the bone marrow as seen with extramedullary hematopoiesis.

The radiographic evidence of extramedullary hematopoiesis combined with the clinical history and laboratory data indicated beta thalassemia.

Discussion

Thalassemia comprises a wide spectrum of diseases. The common defect among them is deficient synthesis of one or more polypeptide chains of hemoglobin.



The chest film.



The lumbosacral spine film.

The deficit can be of either the alpha or beta chain. This disruption of globin balance results in the formation of aggregates of the excess hemoglobin, leading to early lysis and ineffective erythropoiesis. Ineffective erythropoiesis can result in anemia with compensatory expansion of the bone marrow and extramedullary hematopoiesis in the spleen and liver.

The clinical severity of the disease depends on the number of deficient alleles. The alpha thalassemias can range in severity from the silent carrier state (-alpha/alpha alpha) to the most severe, hydrops fetalis (—/—). Alpha thalassemias are seen in Asians.

The beta thalassemias include thalassemia major (homozygous), thalassemia minor (heterozygous) and an intermediate variety. These types are differentiated by their clinical presentation and hemoglobin electrophoresis.

In thalassemia major (Cooley's anemia), no beta chains are produced, therefore no hemoglobin A (alpha₂beta₂) is present. In an effort to compensate, hemoglobin F (alpha₂gamma₂) and hemoglobin

A2 (alpha₂delta₂) are elevated markedly. These patients have profound anemia, hepatosplenomegaly, jaundice, abnormal red blood cell morphology and skeletal changes secondary to marrow expansion.

Patients with thalassemia minor may have mild anemia and mildly elevated levels of Hb A2 and Hb F. Beta thalassemias are seen most commonly in people of Mediterranean descent.

The skeletal changes secondary to marrow hyperplasia are identified as expansion of the marrow cavity with cortical thinning and osteopenia, as seen in the ribs, pelvis, vertebrae, skull and tubular bones. The tubular bones also may exhibit changes such as widening of the metaphysis and epiphysis (Erlenmeyer flask deformity) and growth arrest lines.

Premature fusion of the physes may occur, leading to shortening and skeletal deformity. Classic changes in the skull are the "hair on end" appearance secondary to the coarse, radial striations of the calvarium. Osseous expansion of the maxillary, temporal and frontal bones may lead to obliteration

of the sinuses, frontal bossing and hypertelorism. Marrow expansion along the vertebral column can result in posterior, paravertebral masses with resultant spinal cord compression.

Other causes of extramedullary hematopoiesis that can result in these skeletal changes include hemolytic anemias, myeloproliferative disorders and destruction of the marrow by neoplasm or toxin.

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Resident Medical Society events

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July CME quiz answers

The following letters are the answers to the CME quiz that appeared in the July 1989 issue: "Splenic and Liver Trauma in Children."

1. c	6. b
2. b	7. a
3. c	8. c
4. c	9. e
5. b	10. d

The value of TSH in affective disorders

Courtney G. Clower, M.D. Lafavette, Ind.

I hyroid failure induced by lithium cannot be predicted accurately but may occur suddenly.1 In one prospective study of 133 lithium-treated patients,¹ nine of 12 patients who became hypothyroid had thyroid antibodies and/ or an exaggerated thyrotrophin (TSH) response to thyrotrophinreleasing hormone (TRH).

Interestingly, the follow-up period for the majority of patients in that study was only a year, and a few patients were excluded because of suspected impending thyroid failure. This study concluded that a basal TSH and antithyroid antibody screen (AAS) be done before initiating lithium therapy. In actual clinical practice, however, rarely is either test ordered before or in conjunction with lithium therapy.

Subclinical hypothyroidism, characterized by normal serum and free thyroxine levels but elevated TSH, is a common disorder with an overall prevalence of 2% to 7% and a particularly high prevalence in older women.² Subclinical hypothyroidism usually occurs in patients with thyroiditis or after ablative or non-ablative therapy for Graves' disease.² The indications for treating subclinical hypothyroidism are considered controversial.

One blind study demonstrated

the usefulness of levothyroxine therapy in patients with mild hypothyroid symptoms, while another study concluded that there is no justification for thyroxine replacement therapy.^{2,3} Both of these studies concluded that there is no justification for thyroid replacement therapy for elevated TSH only.

The specific treatment of an organic affective syndrome associated with hypothyroidism is thyroid replacement therapy.4 A severe depression with or without psychotic symptoms can occur in association with subclinical hypothyroidism; the suggested specific treatment is levothyroxine.5,6 However, since TSH and AAS are ordered rarely in such patients, the diagnosis and specific treatment are missed.

This paper will present and review data supporting the practice of obtaining TSH and AAS in lithium-treated patients as well as older women with major depressive disorder. In one study of 66 patients, only eight had an augmented TSH response to TRH, and all were women with major depressive disorder.⁷ Six of these patients had high normal TSH values.

The rationale for an antithyroid antibody screen is explained partly by the following data. Hashimoto's thyroiditis is associated with antithyroglobulin antibodies of titers greater than 1:10 in 80%, and greater than 1:1,000 in 25% of cases of thyroiditis.8

Antimicrosomal antibodies with complement fixation titers of 1:32 or higher occur frequently in thyroiditis.8 The presence of autoantibodies in titers greater than 1:2,000 strongly suggests Hashimoto's or Graves' disease, but their absence does not rule out either condition.9 Finally, Hashimoto's thyroiditis can be associated with a severe depression and/or psychotic symptoms.8

Methodology

Two groups of patients at a mental health center were identified from a quality assurance study conducted by the author during a period of 10 months. The first group consisted of bipolar patients treated with lithium therapy for at least six months. The second group consisted of women older than 35 who met criteria for major depressive disorder. To be selected, a patient must have had a complete thyroid battery including T_3 , \dot{T}_4 , FTI, TSH and AAS during the study period and must not have had thyroid replacement before testing.

As an aid to understanding the results and discussion, two brief cases from the study will be pre-

sented.

The first patient is a 67-year-old woman who had been treated effectively with lithium therapy for five years for a bipolar disorder that began at age 35. She had no history of thyroid disease of

	Table				
Diagnosis	Patients	T ₄ +	TSH⁺	AAS+	
Bipolar disorder	13* 16**	2	5 0	2	
Major depressive disorder	13	0	1	1	
+ = abnormal value * = more than five years Li Rx ** = less than five years Li Ry					

any type. A complete thyroid battery, including AAS, was within normal limits, although the TSH was 8.6 µu/mL (normal range is 1 to 10). She was euthymic with lithium levels between 0.7 and 0.9 mEq/L. Repeat thyroid testing done six months later because of the high-normal TSH showed T₄ had decreased to 3.3 µg/dL (normal range is 4.5 to 12.5), and TSH had increased to 32.6 µu/mL. Physical examination suggested very mild hypothyroid symptoms. The patient was placed on levothyroxine 0.1 mgm every day and continued lithium therapy. On short-term followup, T₄ and TSH returned to normal levels.

The other patient is a 57-yearold woman who was treated continuously with lithium therapy for nine years (300 mg three times a day). Her T₄ was 2.8 μg/dL, TSH was 35.9 μu/mL and antimicrosomal antibodies were 1:25,600 (reference range up to 1:100). The AAS confirmed the clinical impression of thyroiditis. Low dosage levothyroxine .025 mg every day did not have any appreciable response on T₄ and TSH, but with 0.1 mgm every day, thyroid functions returned to normal levels on short-term follow-up. Antimicrosomal antibodies decreased to 1:1,600. She continued to be euthymic on 900 mgm per day of lithium carbonate.

Results

The bipolar group consisted of 29 patients ranging in age from 22 to 70 who were treated with lithium therapy from six months to 15 years. The major depression group consisted of 13 women varying in age from 37 to 78. The results are summarized in the *Table.* There were three positive AAS in the group. Clinical and subclinical hypothyroidism did not occur until five years of continuous lithium therapy, but as seen from the Table, the percentage was high (38%). Subclinical hypothyroidism responsive to levothyroxine was identified in one patient with major depression.

Discussion

The data in this study suggest that lithium-induced hypothyroidism is a significant problem in the long-term treatment of bipolar patients. With a positive AAS and/or TRH-TSH test, thyroid failure is a significant problem in the first year of lithium therapy, and thyroid functions must be

monitored closely in such patients.

Lithium ion inhibits thyroid functions, although how it does so is still not clear.\(^1\) In those patients who remain euthyroid, lithium ion raises TSH both basal and in response to TRH.\(^1\) Thus, the inhibitory effect of lithium is compensated by raised secretion of TSH, which among other effects increases the avidity of the thyroid gland for iodine.\(^1\)

Lithium ion and autoimmune disease may have a powerful interactive effect. Lithium, in addition to having a chemical effect on the thyroid, probably stimulates thyroid autoimmunity. Thus, it would appear that in some cases, lithium contributes to hypothyroidism by potentiating the autoimmune attack. This hypothesis would explain why in the cited study the combination of positive AAS and TRH-TSH tests was predictive of thyroid failure in the first year.

In summary, the data from this study, as well as those reviewed, suggest the following guidelines. Before lithium therapy is initiated, T₃, T₄, TSH, FTl and AAS should be done. A TRH-TSH test can be helpful, but it is an intrusive and expensive test. In patients with either a positive AAS and/or an exaggerated TRH-TSH test, T₂,T₃, FTI and TSH should be obtained every six months. These tests also should be done with this frequency if the TSH is slightly increased or in the high normal range, especially with continuous lithium therapy for at least five years.

The studies reviewed also support the practice of obtaining the full thyroid battery in older women with major depressive disorder for accurate diagnosis because the only adequate treatment in a small percentage of such patients with clinical or subclinical hypothyroidism is thyroid replacement therapy.

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drug names

Look-alike and sound-alike drug names

Category:

TRANDATE HCI

Alpha/beta adrenergic

blocking agent

Brand name: Generic name: Trandate, Glaxo

Labetalol HCl

Dosage forms:

Tablets

TRANDATE HCT

Antihypertensive

Trandate HCT, Glaxo (Labetalol-Hvdro-

chlorthiazide)

Tablets

VIVOX

Category: Brand name: Generic name:

Dosage forms:

Antibiotic Vivox, Squibb Doxycycline

Capsules

VIVONEX

Enteral nutritional therapy Vivonex, Norwich Eaton (combination drug)

Powder

Benjamin Teplitsky, R. Ph. Brooklyn, N.Y.

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increases in senim salicytate levels were seen when nizaboline, [50 mg b i d., was administered concurrently.
Carzinogenesis, Mutageness, Impairment of Ferbitity — A two-year oral carcinogenery study in rats with oses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogene effect. There was a dose-related increase in the devisity of enterochimalifi-like (ECL) cells in the gastine convinc mucosa in a two-year study in mice, there was been convenient to the convenient of the convenient of the convenient of the convenient of the been were increased in the high-dose makes as compared with placebo. Female mice given the high dose of Aud (2,000 mg/kg/day, about 330 times the human dose) showed margnally statistically significant increases in hepatic carrinoma and hepatic nodular hyperhasias with no numencal increases in the first carrinoma and begate convenient of the convenient of the convenient of the convenient of the historical control limits seen for the strain of mice used. The fermale mice were given to dose larger than the maximum timetared dose, as a midicalled by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild free historical control limits seen for the strain of mice used. The fermale mice were given to be some control of the concurrence of the control of the control of the strain of the control of the control of the control of the strain of the control of the control of the control of the strain of the control of the control of the strain of the control of the control of the strain of the control of the strain of the control of the control of the strain of the control of the strain of the control of the strain of

sister chromatid exchange, mouse lymphoma assay, chromosome aberration insts, and amcronucleus test. In a two-generation, pennatal and posthiatal ferbility study in rats, doses of nazidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progenty. Perginancy – Perdiginancy Energy Caregory C – Oral reproduction studies in rats at doses up to 100 times the human dose and in Dutch Belled rabbits at doses up to 55 times the human dose revealed no evidence of more of children of the control of the con

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reported
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challeneige-type effects, including lactimation, salavation emersis, missis, and
darrites. Single eral doses of 600 m/s gui nogo and of 1200 m/g pin moss, expensive
many and 222 m/g grespectively.
Treatment — To obtain-up-to-date information about the treatment of overdose a
good resource is your certified regional Prison Control Center: Telephone numbers
of certified posion control centers are listed in the Physicians' Desk Preference
(PDR). In managing overdosage, consider the possibility of multiple drug overlin toverdosage occurs, use of activated charcoal, emesis, or lavage should be
considered along with clinical montioning and supportive therapy Renal dalysis for
four to so hours increased plasma clearance.
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Monoclonal antibodies: A short history

May Winnifred Annexton Indianapolis

Science, unlike art, progresses incrementally. Few bursts of inspiration are apparent. Instead, science is characterized by building blocks, small steps and giant ones, connected either progressively or laterally with new conclusions or, even more so, new observations on the old.

The science of immunology can be so characterized, and its importance today in medical research and applied science is testimony to the giant strides made in its development. One of the most exciting aspects of immunology is the emergence of the technology for creation of monoclonal antibodies – a scientific effort that is only about 25 years old.^{1,2}

Cesar Milstein, the Argentinian microbiologist, along with George Kohler and Niels K. Jerne, were awarded the Nobel Prize for physics and medicine in 1984 for the development of monoclonal antibodies.³ Yet, it was slightly more than a decade earlier that Milstein and Kohler had begun their collaboration at Cambridge University in England on projects dedicated to research in genetics with particular emphasis on gene expression.

Milstein had invited 27-year-old Kohler, a postdoctoral student who was working in similar areas of research, to join him at the British Medical Research Council Laboratory in Cambridge, England. Milstein already had fused myeloma cell lines with myeloma cell lines, and lymphocytes with lymphocytes in his own research on gene rearrangement.

Subsequently, the collaborative investigations of Milstein and Kohler continued to concentrate on cell fusions. During this joint effort, the two stumbled on the methodology leading to the theory of monoclonal antibodies. What evolved were mechanisms for stimulating antibody and cloning them to ensure essential purity, thus making them amenable for use for specific purposes.^{4,5}

Milstein claimed inspiration for his interest in immunology and genetics from the work of Pasteur and Leeuwenhook. However, his innovative scientific developments must tacitly include a long roster of other contributors to the history of medicine and immunology, a history that well preceded the modern era, centuries before the reason for immunity was fully understood. As far back as 500 B.C., caregivers were aware they would not necessarily contract the diseases suffered by former patients.

Over the years, the wisdom of the ancients was corroborated by observation, and the search for explanations of immunity grew wider and more intense. By the 18th century, Edward Jenner (1749 to 1823) had applied the small but growing body of knowledge to smallpox, inoculating the potential victim with a minute amount of the "disease" by using a vaccine made from the cowpox itself.⁶ Experiments in immunization and recognition that infusions of blood or serum could be transferred from one individual to another to provide immunity were scientific giant steps.

By the late 19th century, the physiological mechanisms that provided immunity became more apparent and comprehendible. And, like other new developments in medicine and science, the taxonomy became more familiar, with the terms antigen and antibody as watchwords for the new science. The former defined the organic molecules that elicited the immune response. The word actually stood for foreign substances and invaders such as bacteria, parasites or viruses against which the body must create defenses stimulating it to produce protective protein molecules, antibodies.

As research continued, investigators learned that any chemical, from the most simple protein to the most complex, including the surface of the cell, reacts specifically to one and only one chemical structure. In so doing, this reaction makes an almost infinite amount of antibody molecules, each recognizing a different tar-

get. These are known as determinants. This knowledge is the sine qua non of the modern science of monoclonal antibodies.

According to Casper Milstein, "Since it is theoretically possible to make antibodies to all sorts of biological substances and other chemicals, they are ideally suited as general specific recognition elements to be used for analytical, cytological, functional, therapeutic and biochemical purposes.⁷" John Cavins, M.D., of St. Vincent Hos-

eign substances is non-specific. In addition, antibodies stimulated in response bind to different antigens on the surface of the invaders. Therefore, the challenge to the scientist was to isolate the single antibody that reacts with a single antigen: a strict one-to-one equation.

In 1973, Milstein and R.G.H. Cotton immortalized B-cell-secreting specific antibody with fused melanoma cell lines. They fused cell lines of rat and mouse origins chains continued to be expressed by the hybrid cells, resulting in the formation of the hybrid molecules in which random association of both sets of parental light and heavy chains occurred.^{10"}

Milstein and Kohler subsequently noted that no new immunoglobulin (Ig) chains were produced, and concluded that Ig production was stable. There was independent control of Ig gene expression from both parents. With S.C. Howe, Milstein and Kohler showed, "When a variant myeloma that no longer expressed either of the wild type light or heavy immunoglobulin chains was fused with an Ig producing line, the non-producer did not switch off immunoglobulin production by the other parental cell but continued to support the production of Ig from the other parent.11"

The ability to make large quantities of antibodies is not a trait of myeloma cells exclusively, according to Dr. George Sledge of the Indiana University School of Medicine. "Lymphoblastoid cells can do it to a lesser degree and lymphocytes can do it in a more limited sense," he said, noting, however, that both lack the immortality quotient.

Monoclonal antibodies are used for diagnostic purposes and for therapy. They can measure chorionic gonadotropin to determine pregnancy. They also can be targeted to assess the efficacy of certain therapies and can be used for therapy itself.¹²

Monoclonals often serve as delivery systems for chemotherapy, which rides "piggyback" to the target. However, success of this transport system is not always assured. Sometimes the chemotherapy becomes separated from

Therefore, the challenge to the scientist was to isolate the single antibody that reacts with a single antigen: a strict one-to-one equation.

pital in Indianapolis, emphasizes that monoclonal antibodies enable a system of specific selection to ensure their essential purity for whatever task they have been created. "The growing sophistication of this technology has allowed scientists to tailor monoclonal antibodies to a patient's own tumor, for example, a modern-day magic bullet," he said.

Myeloma cells are the malignant analogs of benign plasma cells, which make antibody normally, also called B cells. Fusion of the myeloma cell and the lymphocyte produces a hybridoma, a cell that has inherited two significant characteristics: the immortality of the myeloma cell and the ability to make antibody forever, which is derived from the lymphocyte.

The hybridoma subsequently makes specificity not only possible but the key to successful monoclonal development. However, it is important to note the host's reaction to invasion by for-

and created "stable hybrid cells which expressed the immunoglobulin products of both parental myelomas.8" Two years later, Milstein and Kohler reproduced the fusions between two mouse myeloma cell lines, fusing the myeloma cells with spleen cells obtained from a mouse immunized with sheep red blood cells (SRBC). After selecting clones of cells with the desired phenotypic traits, they ended up with hybridomas with two specific characteristics: the ability to grow in vitro from the parent myeloma line, which conferred immortality, and the capacity for specific (SRBC) antibody secretion from the immune-responsive B cell.9

These results were major spinoffs from experiments in cell fusions that had been reported independently from two separate laboratories in 1975 and 1976. "When two immunoglobulin-producing myelomas were fused, both sets of immunoglobulin light and heavy the transport mechanism. Blood flow may not get all antibody to the target. The linkage between the antibody and the chemotherapy may be unstable. According to Dr. Cavins, the delivery system can run into a whole gamut of microenvironmental conditions. Perhaps most importantly, the cells undergo constant evolution, changing surface and metabolic characteristics, and, hence, their response to any intrusion.

What is the future for monoclonal antibody technology? Is it a cure for cancer? According to Dr. Sledge, it is another form of chemotherapy. He believes the cure for cancer lies in learning what our bodies' natural defenses are and how to exploit them, citing T cells as one possibility. Interleukin 2 and interferon are two other of the body's potential weapons often mentioned as part of the body's armamentarium against disease, but their performances have not been satisfactory so far.

Dr. Cavins also cited investigations into research of biologic response modifiers, which are natural proteins in the body with the ability to affect immune response to tumor cells, underscoring as well that the cure for cancer and other diseases will depend on how well the body's defenses can be enhanced to fight its own battles and eliminate disease.

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Infertility as a crisis experience_

Diane B. Brashear, Ph.D. Indianapolis

Editor's note: This is the second in a series of two articles on infertility.

Erikson notes that throughout the life cycle there are specific developmental tasks.¹ Failure in these tasks inhibits growth. According to Erikson, generativity is "primarily concerned in establishing and guiding the next generation." Parenting one's own children is not the only way to experience generativity, but it is the most usual and accepted way. Erikson suggested that it is more difficult, but not impossible, to achieve generativity without parenting. In this context, infertility is experienced as a crisis in the individual's psychosocial development.

The impact of the diagnostic and treatment process for infertility is less likely to be heralded by one major event. This may make an emotional crisis more difficult to recognize. While some couples may identify one event as threatening and emotionally impactive, it is usually a sequence of experiences that pushes patients or couples toward an active crisis state.

Laboratory test results, the first visit to the infertility specialist, the third failed in vitro fertilization or the announcement of a close friend's pregnancy all may trigger intense emotional response. Whatever the experience, it is the meaning attributed to that experience that shifts couples' perceptions that their lives are "not conceiving according to their plan.2"

As soon as a couple realizes they have an infertility problem, they experience feelings of shock, disbelief and helplessness. They also feel a sense of profound loss, which can be experienced in many ways. The loss of bodily function and the threatened loss of a relationship, status and self-esteem have a profound impact on the individual and couple, moving them into a state of vulnerability.

A major problem experienced by many women is the lack of control over their own lives. For individuals engaged in an extensive infertility evaluation and treatment process, the focus and attention on bodily functions are serious concerns. The natural process of menstruation and ovulation is measured and often becomes an overriding concern. Sexual habits are noted systematically on a calendar, with a demand for sexual performance at particular times. As the couple begins to perceive and accept themselves as a couple with infertility problems, they become more vulnerable to what should be, in their experience, a natural and happy anticipatory event.

For most infertility patients who experience a crisis state, the event that triggers the crisis response is most apt to be related to the infertility medical process. This "last straw," which is minor in a larger prospective, shifts the patient into an emotional state of fear, confusion and anger. For example, the angry outburst at a friend or a receptionist may be the signal of that shift. Again, it is not the event, which previously may have been routine. It is the change in the patient's response to the event

that signals the crisis. For this reason, a staff that has consistent experience with the patient is in a good position to recognize this change as it appears atypical, extreme, prolonged or even minimized.

Infertility professionals may not always have the foresight to predict a crisis, because office visits, tests and treatment are routine. Yet, when the couple begins to evidence changes in coping patterns, it is a signal. Because so much attention is focused on physical functioning, it often is difficult to discriminate what is overreaction or just interest in body function. Emotional signs are sometimes difficult to distinguish because many women are treated with hormonal medication, which can change emotional response. It may be, in fact, the lack of expressed emotionality that is the signal of a crisis state.

The crisis state in reproductive failure becomes acute when the patient or couple exhibits difficulties in day-to-day coping. Infertility appears, in their perception, overwhelming to the extent that it consumes their thoughts, feelings and actions. They see no end in sight

Emotional support, coupled with hope, is an important factor in crisis resolution. The importance of medical hope was identified in the study of 343 men who were part of an infertile couple. For those with a clear answer that there was no medical hope, the resolution was less likely to be adoption. For those with unclear hope, there was a greater need to resolve their problem. It was suggested that when husbands

had some degree of hope about being a parent, they experienced a sense of personal control.³

Leiblum followed 28 women who had unsuccessfully completed one or more trials of in vitro fertilization.⁴ Although 52% reported they had resolved their infertility crisis, 93% indicated they would participate in any new reproductive option that would enhance their likelihood of biological pregnancy. Therefore, the opportunity to have final and complete resolution of this infertility crisis is hampered by the hope that new technology will afford an opportunity for pregnancy.

In addition, miscarriages and stillbirth complicate the process and may trigger an extended period of grief. Menning observed that feelings around these uncompleted pregnancies are full of surprise, denial, anger, isolation, guilt

and grief.⁵
As more opportunities to become pregnant are developed, a resolution of the infertility crisis may be delayed. Medical procedures are costly. Insurance coverage often is limited to diagnostic procedures or therapeutic interventions that treat disease, and fertility may not be viewed as a disease by many insurance companies.

With current competition in the medical field for patients, there is some concern that infertility patients are vulnerable to exploitation by eager, profit-oriented marketing strategies. Advertising and promise of pregnancy may seem manageable at the initial states of the infertility evaluation. However, as treatment continues, costs escalate, and the couples have more expense then they originally anticipated. Therefore, the active crisis state may be prolonged by intervening factors such as new

technology and financial need.

Intervention

The use of individual, couple and group counseling should be an integral part of the infertility process.¹ A self-help group, called Resolve, is one well-known group intervention.⁵ Connecting infertile couples with each other lessens isolation and provides emotional support. These groups, which are available in many communities, vary as to the involvement of professional staff. Some professionals routinely work with Resolve chapters.⁵

Many infertility programs have mental health professionals as a part of the infertility assessment and treatment process. Most ity process seems obvious from the previous discussion. Unlike many crises, a major problem is that the problem-solving process is out of the individual's control.

One important aspect of cognitive therapeutic strategies is that the use of cognitive therapy can provide the infertile patient with a sense of personal control, if not over her body and medical treatment, at least over her responses to the situation. Certainly, the threat to self-esteem and the meaning that it may have provides, if one pardons the pun, fertile ground for irrational beliefs

The perception of one as a defective woman who cannot complete her developmental tasks

The use of cognitively oriented groups and individual counseling can provide intervention that specifically addresses several key issues for the infertility patient ...

interventions reflect a supportive psychotherapeutic role. Since sexual dysfunction is common, referrals to marital and sex therapy resources are indicated frequently.

The use of cognitively oriented groups and individual counseling can provide intervention that specifically addresses several key issues for the infertility patient: lack of self-esteem; attributes of defectiveness or imperfection; loss of control; hopelessness; and sexual and marital dysfunction.

Cognitive therapy

The opportunity for cognitive distortion throughout the infertil-

may hook into a number of previous doubts about herself as an individual.

Cognitive therapy is based on the theory that the individual has certain cognitive patterns that become activated by specific stresses. When these patterns are activated, they tend to dominate the person's thinking, subsequent perceptions and emotional responses.

Beck notes that cognitive therapy is most effective in reactive depression. The therapeutic approach is to assist the patients in recognizing their cognitive patterns. As the patient's insights increase to the recognition of what

Beck terms "automatic thoughts," these responses can be challenged and neutralized.

Burns' listings of cognitive distortions suggest how distortions can be used by the infertile patient.⁷ For example, here are seven of Burns' explanations.

1) All or nothing thinking is the tendency to evaluate one's personal qualities in the extreme either/or context. Certainly, the woman most vulnerable to psychological crisis about her infertility is the one who sees that all of her self-worth is placed on her ability to be feminine, as defined by having a baby. Although life is rarely in an either/or context, it is easy for the woman who becomes consumed in the infertility process to think in what Burns calls "dichotomous thinking."

2) Over generalization is a distorted cognition in which a person believes that the one bad thing that happens to him or her will recur repeatedly. Some women begin to interpret their infertility as part of a life struggle, and because they have always had such bad luck, they feel hopeless.

3) Mental filter occurs when a person picks one negative detail in a situation and dwells on it. So many messages and very few answers are given to the infertile patient. A problem that patients have is wanting to know very definitely what is happening and what the outcome will be. Physicians often cannot give an absolute response. This creates an opportunity for gathering data to support a cognitive distortion.

Women report self-preoccupation with their body responses. Any deviation from the way their body should respond is negative datum to support the cognitive distortion that they are failing.

Further, this filtering process often is used to support cognitive interpretations of what the rest of the world perceives. When one sees oneself as being incapable of having a child, many self-evaluations are filtered through this distortion.

4) Jumping to conclusions often occurs with infertility patients. They get caught up in mind reading, particularly in those individuals around them. Husbands, as noted before, are less likely to be expressive of their feelings; therefore, a silent husband is subject to mind reading. Add this to the troubled patient who has low selfesteem and she is likely to think her husband is no longer interested in her, does not care about the infertility process and sees her as defective.

Some women begin to interpret their infertility as part of a life struggle, and because they have always had such bad luck, they feel hopeless.

5) Fortune telling occurs when entire future efforts are placed on making and having a baby. When fertility fails, the individual is apt to see the future in negative ex-

6) **Personalization** is a significant cognitive distortion for the infertility patient. Guilt, derived from some previous behavior, allows her to assume responsibility for the infertility.

7) Catastrophizing occurs when an infertile patient lives only for one reason - the success of the current major treatment. Consequently, any deviation becomes a major catastrophe. Women deeply and emotionally involved in the infertility process manage their day-to-day lives by the treatment regimes.

At this point, there are no evaluative studies as to how interventions, like cognitive therapy, affect the individual and the couple's psychological and marital adjustments. This may be the time, as study continues in this problem area, to be more definitive about the effects of various interventions.

For example, does supportive psychotherapy help maintain the patient in the infertility evaluation and treatment processes? Does cognitive therapy further the resolution of the infertility crisis? Do women and couples who use selfhelp groups such as Resolve make faster or improved resolutions of their infertility crises? What personality characteristics or precrisis life problems interfere or enhance the crisis resolution?

Pregnancy or adoption as an outcome is one way to resolve this crisis. But, making a baby is only one aspect of the infertility experience. Patients report that many new insights occur, such as an awareness of relationship issues in their marriage and with their par-

ents and siblings.

Psychological and social maturing can be enhanced by this struggle and challenge. The use of cognitive therapy as an interventive strategy will not help the couple get pregnant, but it can help the couple respond positively to the crisis.

As new technology is devel-

oped, the infertile patient's chances to become a parent are increased. The challenge to the clinician is to develop and evaluate interventions that allow this crisis to have a positive outcome, whether or not there is a pregnancy.

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Managing HIV-seropositive adults without AIDS____

Judith D. Johnson, M.D. Indianapolis

Editor's note: This is the third in a monthly series of three articles on AIDS.

Patients with acute HIV infection may have an acute viral syndrome. One study has suggested that more than half of adults with acute HIV infection experience a mononucleosis type illness associated with seroconversion.¹

Symptoms are self-limited and typical of many viral illnesses. They may include fever, gastrointestinal disturbances, malaise, lymphadenopathy and on occasion, maculopapular or urticarial rashes occurring primarily of the trunk.^{2,3} Other manifestations may include arthralgias, diarrhea and aseptic meningitis. Symptoms tended to develop three to six weeks after exposure, often before antibody tests become positive.²

Acute HIV infection may be included in the differential diagnosis of patients with known exposures or risk factors and a consistent clinical presentation. Because of the nonspecificity of syndromes and the serious implications of HIV infection, exposed people with viral symptoms should not be told they are HIV-infected until confirmed by serologic testing. Informed consent should be documented before testing.

The majority of HIV-infected adults are entirely asymptomatic and do not manifest any conditions associated with AIDS. It will become increasingly probable that Indiana physicians will have

asymptomatic HIV-seropositive patients in their practices, underscoring the need for routine risk assessment, counseling and testing.

A review of studies of disease progression in different populations has found that 23% of homosexual and bisexual men developed AIDS within six years of seroconversion; 22% of hemophiliacs within seven years while up to 55% of transfusion recipients developed AIDS within seven years.⁴ Information on intravenous drug users is less clear because time of seroconversion is rarely known; however, it is estimated that the three year incidence in this population is 25%.⁴

Infected people, then, may remain in good health for years, and it is not practical, cost-effective or even feasible to refer these patients to specialists. This is particularly true because the care and management of these people are within the scope of primary care providers.⁵

The evaluation of HIV-positive people begins with careful history and physical examination. The purpose of this initial evaluation is to determine if active disease is present that requires treatment, to develop a management plan with the patient, and to ensure patient understanding of his or her condition.

The Centers for Disease Control have developed a classification system (*Table*) based on clinical criteria that may prove helpful in assessing the patient and, if necessary, communicating with other providers.⁶ Particular attention should be paid to past history of tuberculosis exposure, sexually transmitted diseases, travel, pets,

hobbies and alcohol or drug use. People with cats, for example, have a risk of acquiring toxoplasmosis; people working on construction sites may develop histoplasmosis; people spending time in the Southwest may acquire coccidiodomycosis. While it is assumed that no disease states are active, the information may prove useful in future management.

In addition, patient knowledge about HIV infection, transmission and prognosis may vary widely. It is important that patients understand behaviors such as sexual intercourse, needle sharing and pregnancy, which may transmit infection to others, as well as actions such as hugging, cooking and bathing, which will not.

Physicians also should determine if the patient's spouse or significant other is aware of his or her condition and, if necessary, assist in appropriate notification. Further information on patient counseling and risk reduction can be found in the American Medical Association's publication, HIV Blood Test Counseling: AMA Physician Guidelines.⁷

Currently, there is no standardized laboratory evaluation for HIV seropositive people. However, the following studies may be used as guidelines for patient evaluation. Individual patients may require different or more extensive studies:

- 1) Complete blood count, differential and platelets. Anemia, leukopenia and thrombocytopenias are common manifestations of HIV disease. Thrombocytopenia may respond to zidovudine (AZT) therapy.
- 2) T cell analysis will determine the percent and absolute number

of T4 (helper) lymphocytes and the helper/suppressor lymphocyte ratios. This ratio is frequently abnormal and rarely is clinically useful. The absolute number of T4 lymphocytes is helpful in "staging" HIV infection, as the risk of developing AIDS greatly increases when T4 lymphocyte counts fall below 200/mm.^{3,4} Many physicians consider instituting AZT therapy at that point, particularly if other signs or symptoms are present.

Normal or near normal T4 lymphocyte counts may indicate a relatively short period of infection. It is unknown how rapidly the rate of change in lymphocyte numbers and ratios may occur in a given individual. This is particularly true because the time of seroconversion and, therefore, the duration of infection usually are unknown. There also are physiologic variations in lymphocyte numbers and ratios and, generally, some lack of standardization between different laboratories.

3) Serologies. Cytomegalovirus, Epstein-Barr virus and Toxoplasma titres may be helpful in establishing baseline values and, in the case of Toxoplasma, determining risk for clinically manifested disease. Histoplasma titres may be useful, particularly in patients with unexplained febrile illnesses during outbreaks of histoplasmosis. Syphilis serology is recommended strongly because HIV seropositives may have neurosyphilis, requiring aggressive management and extensive treatment. 10,11 Screening for Hepatitis B also may be helpful, and vaccination offered to those who are seronegative.

4) Chemistries and electrolytes for baseline values. HIV-infected people may have elevated total proteins due to polyclonal gammopathies. Other abnormalities may include elevated hepatic enzymes in those with chronic hepatitis or other viral infections and hypocholesterolemia.

5) Tuberculosis screening. Since HIV infection is associated with an increase in tuberculosis nationally, it is important to assess tuberculosis exposure and purified protein derivative (PPD) status. ¹² People who are PPD+ and previously untreated should receive isoniazid (INH) prophylaxis. ¹³

- 6) Chest x-ray (baseline).
- 7) Other tests as clinically indicated.
- 8) Referrals as necessary. In particular, some patients may need psychological support services or evaluation.

Currently, no standards for intensity or frequency of follow-up care are available for these patients. Depending on clinical status, it seems appropriate to reassess stable patients not receiving AZT at six-month to 12-month

intervals. Patients actually may be seen more often because they frequently seek medical attention for trivial matters. Patients and their physicians often need reassurance that an upper respiratory tract infection is indeed a cold and not the heralding of serious disease.

Laboratory tests may be repeated as indicated. Lymphocyte analysis may be repeated when believed medically necessary by the physician, requested by the patient or at regular, agreed-upon intervals.

A number of HIV seropositive people may have generalized lymphadenopathy¹⁴ as their only physical finding. These people usually are without other medical complaints and are otherwise asymptomatic. The enlarged lymph nodes are frequently shotty and are commonly noted in the anterior and posterior cervical chains, as well as in the supraclavicular areas. Axillary and inguinal adenopathy also are com-

Table

CDC classification system for HIV infection *

Group I	.Acute infection
Group II	.Asymptomatic infection
Group III	.Persistent generalized lymphadenopathy
Group IV	.Other disease
Subgroup A	.Constitutional disease
Subgroup B	.Neurologic disease
Subgroup C	.Secondary infection
C-1	.Fulfilling CDC surveillance definition for AIDS
C-2	.Other
Subgroup D	.Secondary cancers
Subgroup E	.Other conditions

^{*} adapted from the MMWR 1986;35:334-339.

monly present but, as in the case of inguinal adenopathy, may be less specific. Evaluation of such patients is essentially the same as that outlined above for asymptomatic seropositives. Lymph node biopsy may be warranted in some cases to preclude Hodgkin's disease, other lymphomas or opportunistic infections.

In many instances, however, biopsy reveals reactive lymphoid tissue.¹⁵ Any biopsy specimen also should be sent for bacterial/ fungal/mycobacterial stains and cultures as HIV-infected people are particularly prone to disseminated mycobacterial and fungal infections.

It is unclear if otherwise asymptomatic patients with generalized lymphadenopathy have worse prognoses than those who are asymptomatic without lymphadenopathy. Some studies have shown that this condition per se is not a negative prognosticator, while other studies indicate that these patients may be more advanced in their course of HIV infection.

As described above, T-cell ratios and analysis may help in determining the status of these patients. Patients with lymphadenopathy, oral candidiasis and low T4 lymphocyte counts are at great risk for developing AIDS within months.4 Other clinical indicators for the development of AIDS include weight loss, fevers, night sweats, hairy leukoplakia and severe zoster.

Some researchers have found persistent or increasing levels of P24 antigen, an HIV antigen, are poor prognostic indicators.4 P24 antigen may be present early in the course of HIV infection but tends to disappear as antibodies develop. Late in the course of disease, some individuals may

lose their antibodies to P24 and again become antigen positive; others may have increasing amounts of P24 antigen as viral replication increases. It is unclear whether repeated testing for P24 antigen is clinically warranted at this time.

The U.S. Food and Drug Administration has approved zidovudine (Retrovir), more commonly known as AZT, for use in patients who have had Pneumocystis carinii pneumonia or in patients with advanced AIDS-related complex (undefined) and fewer than 200/mm3 T4 lymphocytes. Many physicians would describe AZT for any patient with AIDS, any symptomatic patient or any patient with depleted or rapidly decreasing T4 lymphocytes.

Lymph node biopsy may be warranted in some cases to preclude Hodgkin's disease ...

AZT is a thymidine analog that, when activated by intracellular phosphorylation, inhibits reverse transcriptase and the transcription of viral DNA from RNA. AZT markedly decreases both morbidity and mortality in patients with Pneumocystis carinii pneumonia or advanced HIV infection.16 AZT has been associated with increased survival over time for patients with Pneumocystis carinii pneumonia, with a one-year survival of almost 90% for selected patient populations. 17

AZT is not curative, however, and patients receiving AZT must realize they continue to be HIV infected and potentially infective. AZT also has significant toxicities, with almost one-quarter of recipients requiring maintenance blood transfusions. 18 Neutropenia also occurs in approximately 16% of those on AZT;18 however, druginduced thrombocytopenia is rare and, as stated, HIV-related thrombocytopenia may improve with AZT therapy.9

Patients with depleted marrow reserves or those taking other suppressive agents are at greater risk for pancytopenias. However, AZT can still be initiated in these patients as long as blood counts are monitored carefully. Other side effects of AZT may include dysphoria, insomnia and gastrointestinal complaints. Myalgias or myositis, with markedly elevated creatinine kinase, may occur after months or years of use. Toxicities often require withholding therapy until resolution and/or dose modification.

Commonly, dosage is reduced to 100 mg every four hours or 200 mg every six to eight hours. Studies demonstrating the efficacy of reduced dose schedules are not available yet. Anecdotal experience, however, seems to indicate that patients benefit from modified courses of therapy.

Patients receiving AZT require regular monitoring of hematological and biochemical parameters. Marrow suppression usually does not occur until several months into therapy. Most physicians choose to follow complete blood counts every two to four weeks with regular but less frequent evaluation of chemistries, creatinine kinase and liver en-

AZT is available by prescription at most major pharmacies in Indiana. Cost is a significant factor; one month's supply costs approximately \$650. Medicaid and many, if not all, insurance plans cover AZT.

The standard dose of AZT is two capsules (100 mg each) taken orally every four hours. Many patients arrange to be awakened at night to take their AZT. All patients should be cautioned against "making up" missed doses. Missed doses should be "dropped" and the next scheduled

pneumonia (PCP) is the most common infection in Indiana AIDS patients and will be discussed briefly.

The presentation of PCP in HIV-infected people usually is insidious. Patients may complain of a persistent, nonproductive cough for weeks preceding diagnosis. Other characteristic signs that occur later include fever and in-

Patients on AZT must be cautioned not to take products containing acetaminophen.

dose taken on time. AZT is metabolized by the liver through glucuronidation. Certain other agents, including acetaminophen, may compete for metabolization and should be avoided: Patients on AZT must be cautioned not to take products containing acetaminophen. Aspirin and many nonsteroidal anti-inflammatory agents also should be avoided or used with caution by people receiving AZT.

A recent article describes the emergence of drug resistance in HIV isolates from patients taking AZT.¹⁹ The practical clinical significance of this finding is unknown at this time.

The F.D.A. has recently approved an Investigational New Drug for aerosolized pentamidine, 300 mg once a month, as primary prophylaxis for *Pneumocystis carinii* pneumonia in HIV-positive patients with fewer than 200/mm3 T4 lymphocytes. This outpatient treatment, as well as AZT, can be offered to appropriate patients.

Description of the full range of opportunistic infection and cancers is impossible in this article. However, *Pneumocystis carinii*

creasing dyspnea on exertion. Chest pain, often pleuritic, may be present. Physical examination is often unremarkable – lungs are deceptively clear to auscultation and percussion. Chest x-ray may be normal early on, show prominent interstitial markings or, if late in the course of illness, frank infiltrates. Arterial blood gases are abnormal except for early in the course of the disease. Desaturation with exercise is common.

Diagnosis depends on demonstrating organisms in bronchial secretions or tissues. Organisms may be seen occasionally on expectorated or induced sputum. Most commonly, however, bronchoscopy with lavage is needed; very rarely, open lung biopsy is necessary. Silver, Giemsa or other special stains are needed to detect Pneumocystis on specimens and should be requested.

HIV-infected people also may have upper respiratory tract infections with cough, bronchitis, bacterial pneumonias and other common medical syndromes. If the patient is clinically stable, evaluate and treat the patient for common, self-limited illnesses before initiating evaluation for PCP. If signs and symptoms persist or worsen with conservative management, then further investigation is warranted. Patients who appear acutely ill or severely dyspneic obviously require more aggressive intervention.

Some individuals will have relatively or completely normal chest x-rays, despite clinical histories and presentations consistent with PCP. Many physicians understandably are reluctant to proceed to bronchoscopy without a clear indication of pathology. Gallium scanning with ⁶⁷Ga-citrate is useful in these instances, showing abnormal pulmonary uptake of isotope in patients with PCP.²⁰ If the gallium scan is positive, broncho-

scopy is justified. Treatment for PCP consists of either trimethoprimsulfamethoxazole (TMP-SMX) intravenously or orally, or intravenous pentamidine. The recommended dose of TMP-SMX, assuming normal renal function, is based on 15 to 20 mg/kg/day of trimethoprim, divided into four equal doses. Pentamidine is given once daily by intravenous infusion based on four mg/kg. It usually is recommended that patients receive at least three weeks of primary therapy.

Both TMP-SMX and pentamidine have significant side effects. Rash, fever, hepatotoxicity, nausea and bone marrow suppression commonly complicate TMP-SMX therapy. Bone marrow suppression, disorders of glucose metabolism, particularly hypoglycemia, nephrotoxicity and hypotension often complicate treatment with pentamidine. One study suggests that TMP-SMX may be more effective than pentamidine in treating PCP with acceptable toxicities, if levels are monitored and main-

tained within therapeutic range.²¹

Many patients who started with TMP-SMX are unable to complete a three-week course and are switched to pentamidine when side effects become unacceptable. Pentamidine is a more convenient agent for at-home therapy because it is given only once a day.

In addition, many physicians would consider switching agents if the patient does not respond with clinical improvement after five to seven days of treatment.

Prophylaxis after initial treatment for PCP appears to prevent recurrence. Prophylaxis usually consists of oral TMP-SMX in those who tolerate it or aerosolized pentamidine as mentioned above.

Patients with HIV infection but without AIDS may be managed readily in primary medical practices. Many patients who meet the diagnostic criteria for AIDS may be followed on an outpatient basis if specialty consultation is available.

Physicians who want consultation on individual patient management may contact local specialists or the Division of Infectious Diseases at the Indiana University School of Medicine. In addition, the Infectious Disease Research Clinic offers many experimental protocols for HIV-infected individuals with and without AIDS, including protocols for patients failing conventional PCP therapy.

For information about research protocols, call (317) 274-8456. Physicians who want to sponsor seminars on HIV management as a hospital medical staff or local medical society activity may call the MATEC at (317) 630-7133.

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onmalignment of colleagues

Editor's note: This story was compiled by Adele Lash, ISMA communications director, from information provided by Liabilities Limited and interviews with Linda S. Mangels, Ph.D.

At the close of 1987, total professional liability payments on a national scale exceeded \$10 billion. Three out of five physicians faced lawsuits in 1987. The ratio of doctors sued remained the same in 1988, but the average total payment increased from \$82,000 in 1987 to \$110,000.

"The number one cause of a malpractice suit is an unexpected outcome," said Linda Mangels, Ph.D., director of education for Liabilities Limited, a division of American Physicians Service Group, Inc. Dr. Mangels conducts risk management seminars. This spring and summer the Physicians Insurance Company of Indiana (PICI) has brought her to Indiana to teach Hoosier doctors. PRE-VENTION, a word she uses as an acronym to describe steps physicians must take to reduce their professional liability.

Physician-patient relationship

"It's through the physicianpatient relationship that doctors deal with the unexpected outcome," said Dr. Mangels. Listening is the key to developing physician-patient rapport, she emphasized.

Dr. Mangels suggested other ways doctors can improve their relationship with patients. Start with a sincere handshake and a smile. Then sit down and maintain eye contact with them as they respond to your questions. Do

not write in the patient's record while the patient is speaking. Listen not just to what they say, but note how they say it. Nod in response and summarize to clarify what the patient says.

Explain why any information the patient provides is important to the diagnosis. Discuss the possible treatments and care. Ask questions to determine if the patient has understood the points discussed. Inform the patient of possible side effects, if any, to medication prescribed. Urge the patient to call for follow-up information or care.

Record keeping

"The number one reason doctors lose malpractice suits is medical records," said Dr. Mangels. She offered these suggestions: 1) record all important factual patient information; 2) initial and date every x-ray, test result or chart before filing; 3) cross out any incorrect information with a single line, date and initial; 4) obliterate or alter nothing; 5) be certain all notes are legible; and 6) document all phone conversations or after-hour encounters with patients.

Errors in medication

One out of seven times, medication is administered in error, according to Dr. Mangels. Most medication errors result from:

- Labeling mistakes when the wrong name is placed on medicines, a complication of the large number of look-alike, sound-alike drugs;
- Dispensing errors when drugs are administered at the wrong time or via the wrong route;

- Increased dosage due to computation mistakes;
- Illegibility of order causing the wrong drug or the wrong dosage to be administered; and
- Verbal orders that are misunderstood, resulting in a soundalike drug being administered instead of the appropriate one.

Awareness of and careful attention to avoiding these errors can go far in eliminating them.

Verifiable consent

Physicians have a duty to inform patients in lay terms of: the diagnosis of the problem; the nature of the recommended treatment; the risks involved; the chances of success; what can happen if the problem is not treated; and what alternatives to the recommended treatment are available, including additional consultation.

Simply using a pre-printed form to provide a patient with information about a course of treatment is not advised. A verbal discussion is essential to validate that the patient comprehends what has been said.

The physician who will perform the treatment is responsible for obtaining the consent signature. While that responsibility may be delegated, the physician is still legally required to be certain the patient understands. Document the discussion with the patient regarding the consent signature.

Expectations of the patient

In what is termed a "society striving for immortality," advances in medical treatments bring higher expectations for longer, healthier lives. Patients expect that even if a disease is incurable, it can be managed or that a new miracle drug or treatment will be developed.

Frustrated patients who feel their expectations have not been met are more prone to file a malpractice suit. Physicians should pay attention to these basic patient expectations according to Dr. Mangels: 1) to be treated with courtesy and respect; 2) to be in a warm and compassionate atmosphere where they are comfortable asking questions and discussing their concerns; and 3) to have their fears, anxieties and concerns listened to, taken seriously and properly addressed.

Nurse-physician communication

Significant liability problems arise when nurses and physicians do not communicate. When doctors don't read the nurses' notes in the medical record and when nurses can't decipher the doctors' handwriting and fail to clarify written orders, the results for the patient can be devastating.

Doctors should encourage nurses to ask about written orders they can't read. Similarly, they should be appreciative of efforts by medical and nursing staff members to communicate a potential problem.

In fact, channels or lines of communication established in advance within the office or hospital can smooth the way for responding to questions or problems. Time set aside each week to give feedback and exchange information can improve patient care and ultimately lessen the likelihood of malpractice suits.

Telephone prescribing

Document phone calls taken outside the office and after-hours. Keep a pad and pen near a home phone. A tape recorder to dictate notes after a conversation will help to ensure the data are entered accurately into the patient's record.

Note the time of the call, the name of the caller, the nature of the complaint and the advice you gave. Certainly, if you are covering for another doctor, notify him

PICI offers clients a program to reduce malpractice

At least one liability insurance company is offering its clients a new method to help reduce their likelihood of being sued. Since March 1, Physicians Insurance Company of Indiana (PICI) has offered Incentive Review Programs to group practices of six or more physicians.

PICI's Incentive Review Program includes reviews of loss history and of medical record-keeping practices as well as surveys of internal communication and collection procedures. The program also determines whether a peer review program is in place and, if so, what monitoring techniques are being used.

The Incentive Review Program provides a mechanism to evaluate the group's participation in risk management and to give integrity, credibility and consistency in the evaluation and review of the medical group's operation. As a result, (if the group qualifies) certain rate credits will be awarded to determine the appropriate premium to be charged. The main goal is to reduce malpractice by educating the physicians on risk management techniques.

As a free service to PICI policyholders, doctors receive advice on risk management through the use of a risk profile, which takes about one hour to complete. \square

Specialties hardest hit by malpractice suits

- 1. Family practice general practice
- 2. Obstetrics/gynecology
- 3. Emergency room physicians
- 4. Orthopedic specialists
- 5. General surgeons
- 6. Anesthesiologists

Impact on obstetrics care

- ✓ 63% of family practices have eliminated obstetrics care
- ✓ 45% of general practices have eliminated obstetrics care
- ✓ 36% of obstetric/gynecology practices have eliminated obstetrics care
- These figures are based on studies done in 1987 by Liabilities Limited.

or her of all calls, particularly if follow-up care is required. Whenever treatment or medication orders are given over the phone, it is critical that information is entered into the patient's record.

After-hours care requires other considerations. If you are not able to respond to an emergency call, arrange for a colleague to do so. Always have a backup physician if you cannot fulfill your obligation to a patient. In an emergency situation, both the patient and the patient's family may be anxious. Be available to respond to their questions and concerns.

Incomplete patient histories

One-fourth of the 35,000 malpractice cases studied by 21 Physicians Insurers Association of America member companies stemmed from incomplete or poorly documented patient histories. Standard forms, which many doctors use to take patient histories, should be reviewed to see if they conform to today's changing standard of care.

Obtain all relevant histories from other physicians before beginning treatment. This is crucial to avoid possible drug interactions, conditions that would contraindicate using certain medications and drug allergies. Past medical records also show patient noncompliance. The bottom line is: You can be held liable for what you don't know about a patient.

Office climate

What patients perceive from an office environment reflects either favorably or unfavorably on the physician's capabilities. Conduct annual patient surveys to determine their attitudes toward your office facility. Colors, lighting, interior furnishings and textures, music and temperature are important in creating a relaxing and comfortable environment. Pale, cool shades; soft, subtle light; cloth fabrics in subtle shades, either solids or soft prints; and easy listening music create a welcoming environment.

No matter how soothing a waiting room is, it can't make up for unfriendly or indiscreet office personnel. Office staff should smile and welcome patients as they arrive.

While employees should be encouraged to ask the physician about treatment orders they don't understand, this shouldn't be done in front of the patient. The way in which a question is asked can raise a question in the patient's mind. A need for clarification is one thing, but questions voiced in front of the patient that

imply disapproval of the physician's treatment order should not be tolerated.

Certainly, respect for a patient's privacy is important. One patient said as she paid her bill, a staff member called across the waiting room for the date of her last menstrual cycle. Obviously, this information should have been requested in the examining room.

The educational environment of an office is another point to consider. Colorful charts, handouts, posters and other materials that discuss various aspects of patient care assist in educating patients. They also indicate an interest in staying abreast of new developments in medical care.

Nonmalignment of colleagues

"If one physician demeans another within the patient's or the family's hearing, it can set the stage for litigation," said Dr. Mangels. There are several points to remember when dealing with patients being treated by other health care professionals.

• Do not imply that another doctor's good results are a result of luck instead of competence;

• Do not make unsolicited suggestions to another member of the health care team in the patient's presence, except in an emergency;

• Never assume that another member of the health care team has acted improperly based only on statements made by the patient or family; and

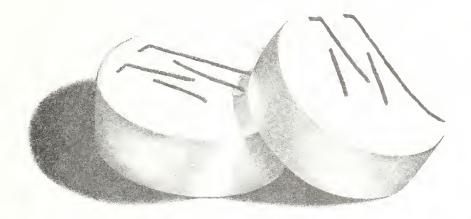
 Never criticize the hospital for policies or administrative problems encountered during patient care.

Unfortunately, the question for many physicians is not "Will I be sued?" It's "When?"

Following Dr. Mangels' suggestions may alleviate some risks of being sued. \square

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DIGEST OF HEALTH & MEDICAL LAWS

1989 Indiana General Assembly

DIGEST OF HEALTH AND MEDICAL LAWS 1989 INDIANA GENERAL ASSEMBLY

The 1989 session of the Indiana General Assembly was unique in many ways, not the least of which was the 50-50 political split and the power-sharing arrangement for the two speakers of the Indiana House of Representatives. Each committee of the Indiana House also had two chairmen—a situation that allowed a tremendous volume of bills to move through the legislative process.

As a service to the members of the Indiana State Medical Association, this "1989 DIGEST OF HEALTH AND MEDICAL LAWS" has been prepared to summarize those new laws of interest to the medical profession.

If you have any questions, or would like more information on a particular law, please contact the Department of Government Relations of the ISMA at 1-800-382-1721 or 317/925-7545.

Indiana State Medical Association Department of Government Relations:

Julie Newland, Director

Mike Abrams, Legislative Assistant

Duane Schaefer, Legislative Assistant

Kim Williams, Administrative Assistant

Allied Health Professions

■ SEA 144 — provides for the certification of persons as occupational therapists and occupational therapy assistants;

—establishes the occupational therapy committee consisting of five members appointed by the president of the medical licensing board. At least one member shall be a physician;

-requires the occupational therapy committee to make recommendations concerning rules to the medical licensing board for

promulgation.

The section requiring the president of the medical licensing board to appoint members to the occupational therapy committee takes effect June 1, 1989. The remaining sections take effect July 1, 1989.

● SEA 447 — provides for the certification of persons as

respiratory care practitioners;

—establishes the respiratory care committee consisting of five members appointed by the president of the medical licensing board. At least one member shall be a physician;

—requires the respiratory care committee to make recommendations concerning rules to the medical licensing board for promulgation.

This Act takes effect July 1, 1989.

Children and Child Care

● SEA 153 — requires the state department of public welfare to prepare annually a list of agencies that perform the home inspection and supervision required for child adoptions;

—requires the state department of public welfare to carry out a program to place hard-to-place children in adoptive homes;

—prohibits insurance policies or plans from including restrictions that affect only adopted children.

The section requiring the state department of public welfare to prepare a list of agencies takes effect September 1, 1989. The remaining sections take effect July 1, 1989.

SEA 344 — adds additional members to the board for the coordination of child care regulation and directs the board to study the laws governing child care in Indiana and recommend necessary changes;

—requires the department of public welfare, before July 1, 1990, to adopt rules establishing minimum standards for care of children in private secure facilities and those parts of shelter care facilities that are locked to prevent a child's departure.

This Act takes effect May 2, 1989.

■ HEA 1162 — transfers the division of services for children with special health care needs (formerly the division of services for crippled children) from the state department of public welfare to the state board of health;

—requires the commissioner of the state board of health to appoint as director of the division of services for children with special health care needs a physician or a person with a graduate degree who has expertise in the health care system as it relates to the needs of a child with special health care needs and the child's family;

—allows an optometrist, podiatrist, or chiropractor (in addition to a physician) to examine a child and recommend to the divi-

sion whether that child should be accepted for medical care by a children's diagnostic and treatment center;

—provides that when medical care is provided to a child who receives foster care, the provider shall provide a copy of the form provided under IC 12-1-28 along with a copy of the child's medical treatment record to the county health department in which that child resides;

—allows a county to appeal for an increase in its maximum county welfare property tax levy if the increase is necessary to pay the obligations that will be incurred by the county for children in need of services;

-establishes the "county and state medical assistance to wards fund" to defray expenses incurred;

—establishes a medical passport program for children receiving foster care;

—establishes a "children with special health care needs fund" in each county that is funded by a tax on the property located in the county and by the bank taxes.

The section transferring the division of services for children with special health care needs takes effect July 1, 1990. The remaining sections take effect July 1, 1989.

● HEA 1231 — requires school corporations, three years before a child's last school year, to identify handicapped children who are likely to benefit from ongoing adult services. (Although current law requires such identification, this law adds the provision that identification must be done three years before the child's last school year);

—provides that information on adult services must be distributed to the parents of an identified child before January 1 of the school year that is three years before the child's last school year. This Act takes effect July 1, 1989.

● HEA 1403 — requires the department of public welfare to establish standards before July 1, 1990, for the care of children in private secure facilities and in those parts of a shelter care facility that are locked to prevent the child's departure;

—gives juvenile courts concurrent jurisdiction in proceedings to civilly commit a child, except that a juvenile court cannot commit a child to a facility other than a child caring institution; —requires a guardian ad litem or a court appointed special advocate to review the appropriateness of a child's placement within 30 days, 60 days, and then every six months after a child's commitment to a facility;

—requires a juvenile court that commits a child to require the county department of public welfare to report on the progress of implementing the commitment at least every six months.

This Act takes effect July 1, 1989.

● HEA 1404 — expands the membership of the board for the coordination of child care regulation;

—requires the board to study the laws governing the regulation of child care and make recommendations to the general assembly; —makes evidence of a conviction for child abuse or child molesting against a stepchild who has not been adopted by the offender prima facie evidence that continuation of the parent-child relationship poses a threat to the well-being of the child. This Act takes effect May 5, 1989.

● HEA 1974 — requires the department of mental health to implement the federal "First Steps" program, a program of early intervention services for handicapped infants and toddlers. This Act takes effect May 9, 1989.

Communicable Diseases/Public Health

- SEA 429 provides that a person who reports information as required under this act for communicable diseases is immune from civil and criminal liability;
- —adds funeral directors and embalmers to the list of providers required to follow the universal precautions guidelines;
- —defines "high risk activity" and "persons at risk" for purposes of dangerous communicable diseases;
- —provides that carriers of dangerous communicable diseases have a duty to warn, or cause to be warned by a third party, a person at risk of the carrier's disease status and the need for counseling and testing;
- —provides that a physician who diagnoses, treats, or counsels a patient with a dangerous communicable disease shall inform the patient of the patient's duty to warn their contacts;
- —provides that a physician who notifies the health officer that their patient is a serious and present danger to the health of others is immune from liability;
- —provides that a physician who notifies a person at risk that they may have been exposed to a carrier and informs them of available health care measures, such as counseling and testing, is immune from liability;
- —establishes procedures for the notification of emergency care providers who are exposed to blood or bodily fluids where there is risk of exposure to a dangerous communicable disease;
- —establishes procedures for the collection and testing of autologous donations and directed donations;
- —requires blood centers in Indiana to be licensed by the state board of health;
- —allows the state board of health to adopt rules after considering FDA guidelines for the minimum standards and requirements for the operation of the blood center;
- —establishes procedures for the declaration of a blood shortage emergency;
- —requires each semen donor to be tested for certain dangerous communicable diseases, and also requires recipients and each donation of semen to be tested at least annually;
- —requires all individuals who have professional, employment, or volunteer duties where they have direct contact with blood or body fluids in the scope of their duties to use universal precautions;
- —defines crimes that are "epidemiologically demonstrated for risk of transmission of the HIV;"
- -prohibits the sale or distribution of a home testing kit for HIV unless it has been approved for use by the FDA.
- This Act takes effect July 1, 1989.
- HEA 1753 requires the department of public welfare to request a Medicaid waiver from the U.S. Department of Health and Human Services to provide case management services to AIDS patients;
- -allows the state department of human services to use resources to develop a statewide organization of AIDS community action groups to coordinate local strategies for dealing with AIDS. This Act takes effect July 1, 1989.

Drugs

● SEA 195 — makes it a Class A misdemeanor for a school bus driver to consume or possess a controlled substance or intoxicating liquor either before operating or while operating a school bus. It is a defense if a controlled substance is consumed or possessed in accordance with a medical prescription issued by a physician.

This Act takes effect July 1, 1989.

SEA 267 — requires employees of school corporations to report to school administrators, in writing, any offenses related to alcohol or controlled substances they observe in, on, or within 1,000 feet of school property. Administrative staff, then, will report to law enforcement;

—makes the crime of dealing in controlled substances a Class A felony (rather than Class B) if the person is an adult with a prior conviction who provided the controlled substances to a child younger than 12. Prescribes a 99-year prison term for those convicted, and prohibits a judge from suspending the sentence;

—increases the crime of manufacturing drug paraphernalia from a Class A infraction to a Class D felony if the person has had a prior conviction.

The sections of this Act dealing with school property reporting take effect January 1, 1990. The sections dealing with increased penalties take effect July 1, 1990.

SEA 351 — establishes several funds to fight drug abuse: the "local law enforcement drug abuse prevention fund," the "drug interdiction fund," the "corrections drug abuse fund," and the "drug prosecution fund;"

—provides that the money will be distributed to the funds based on collections made by courts that will be required to assess a drug abuse, prosecution, interdiction, and correction fee of between \$100 and \$1,000 for those who are convicted of drug-related crimes;

—allows property found near a person while a drug crime was being committed to be entered as evidence that the property was used to commit the crime.

This Act takes effect July 1, 1989.

- SEA 380 establishes the "emergency medical services restitution fund" to reimburse persons who provided emergency medical services to individuals injured as a result of an accident caused by a person who was operating a vehicle while intoxicated:
- —requires a court to order an individual convicted of drunk driving to contribute up to \$1,000 to the "emergency medical services restitution fund" if emergency medical services were necessitated because of the offense.

This Act takes effect July 1, 1989.

SEA 402 — allows the governor to establish the Hoosier Alliance Against Drugs (HAAD), as a private, not-for-profit corporation to provide grants and serve as a resource for education programs on drug and alcohol abuse by coordinating activities and assisting local communities in their efforts to educate citizens. This Act takes effect July 1, 1989.

- SEA 507 provides an income tax credit for a business that establishes or maintains a drug and alcohol abuse prevention program for its employees approved by the division of addiction services;
- -provides that the credits allowed to all taxpayers may not exceed \$1,000,000 in a fiscal year.

This Act takes effect January 1, 1990.

● SEA 562 — allows for the use of the death penalty for those convicted of murder while dealing in cocaine or a narcotic drug.

This Act takes effect July 1, 1989.

● HEA 1668 — allows a pharmacist to substitute a generic drug on a Medicaid prescription unless the prescriber has written "brand necessary" or "brand medically necessary" on the prescription;

—allows a pharmacist to substitute a generic drug on a Medicare prescription unless the prescriber has written "brand necessary" or "brand medically necessary" on the prescription;

—provides that the governor shall enter into an agreement with the American Medical Association to participate in the Prescription Abuse Data Synthesis (PADS II) program in Indiana; —provides that the agreement may not mandate the participation of any providers;

—establishes a seven member prescription drug diversion advisory committee appointed by the governor to serve as an advisory body in all matters relating to PADS II. The committee shall consist of: two physicians, one pharmacist, two representatives of law enforcement, and two state agency representatives;

—provides that the health professions bureau shall administer this program based on the recommendations of the advisory committee, including confidentiality provisions, submission of data, and more;

—provides that the committee that administers the multiple copy prescription program is to prepare an annual report to the legislature outlining the use of the program and the number of actions taken against prescribers;

—provides that the data collected under the multiple copy prescription program (controlled substances advisory committee) and the prescription drug diversion advisory committee shall be shared on a timely basis;

—provides that the state shall not expend more than \$98,000 in two years for the PADS II program.

The section of the Act dealing with Medicaid prescriptions takes effect July 1, 1989. The section of the Act dealing with Medicare prescriptions takes effect January 1, 1990. The section of the Act dealing with the PADS II program takes effect January 1, 1990.

HEA 1768 — allows pharmacists to accept medication for resale only if it was: 1) dispensed to a patient in a hospital or nursing home, 2) stored properly, 3) returned unopened in a tamper-resistant package, 4) dispensed by the same pharmacy accepting the return, 5) not expired, and 6) not a controlled substance.

This Act takes effect July 1, 1989.

Health Records

- SEA 270 specifies procedures for the release of hospital records:
- a subpoena coupled with a Rule 34 request,
- a subpoena coupled with a patient's written authorization, or
- a court order;

—adds coroners investigating a death, and those authorized under the health records statute, as persons authorized to have access to the hospital records;

—incorporates into Indiana law the procedure under federal law for the release, subject to court order, of confidential drug and alcohol treatment records;

—establishes procedures for the release of hospital records concerning treatment for mental illness or a communicable disease subject to a court order issued after an in camera review.

This Act takes effect July 1, 1989.

Hospitals and Health Facilities

- SEA 233 permits county hospitals to finance or refinance the acquisition of real or personal property by means of a mortgage or a sale and leaseback of hospital property;
- —specifies requirements for sale of property by auction. This Act takes effect May 1, 1989.
- SEA 450 allows the department of public welfare to establish a special system of Medicaid reimbursement for Healthwin Hospital in South Bend.
 This Act takes effect July 1, 1989.
- HEA 1149 continues the existence of the Indiana Health Facilities Council and the Indiana Hospital Council with some modifications;
- —provides that the state board of health is to license and regulate hospitals and ambulatory outpatient surgical centers;
- —provides that the health commissioner may take actions as specified in the law against a hospital for violating this licensing law; —provides that a hospital aggrieved by an action against it from the commissioner may appeal under the procedures of the Indiana Administrative Adjudication Act;
- —establishes an appeals panel under the state board of health to conduct proceedings for review of an order issued by an administrative law judge and provides that the panel is the ultimate authority;
- —provides that the Indiana Hospital Council shall propose rules that the state board of health may adopt for the operation and management of hospitals and ambulatory outpatient surgical centers;
- —adds an additional senior citizen member to the health facilities council;
- —provides that the state board of health, through a director, may recommend licensure for a health facility according to criteria established by law;
- —provides that the director may initiate a procedure under the law to issue a probationary license or to revoke a license for a health facility;

- —classifies into categories the levels of offense or inefficiency that will be used to govern the health facilities and that those categories are to be placed in rules adopted by the health facilities council;
- —allows the state board of health, through the attorney general, to seek civil penalties up to \$25,000 per day for the unlicensed operation of a health facility;
- —provides that the state board of health shall appoint an appeals panel to conduct proceedings for review of an order issued by an administrative law judge against a health facility.

This Act takes effect July 1, 1989.

● HEA 1387 — extends the filing period to perfect a hospital lien from 90 days after a patient's discharge to 180 days after a patient's discharge.

This Act takes effect July 1, 1989.

- HEA 1708 requires home health agencies to be licensed by the state and establishes procedures (exempts physicians);
- —continues long term care planning until July 1991;
- —allows hospitals to convert up to an additional twenty acute care beds to either skilled or intermediate care beds that are to be certified;
- —requires long term care occupancy rates to reach 90% in a county before new beds can be built;
- —allows a facility to construct a maximum of fifteen comprehensive care beds not certified for Medicaid or Medicare;
- —allows a hospital that provides long term care to construct a maximum of ten comprehensive care beds not certified for Medicaid or Medicare;
- —allows certain county hospitals to have two physicians on their boards who are on the medical staff of the hospital;
- —prohibits chiropractors from advertising and waiving payments of deductibles or co-payments with certain exceptions;
- —makes it a Class D felony to damage or cause interruption of work in a scientific research facility;
- —specifies the use of inspection forms of restaurants and groceries by boards of health.

The sections of this Act dealing with comprehensive care beds, long term care planning, and county hospital board members take effect May 5, 1989. The sections of the Act dealing with restaurant inspections, home health agencies, chiropractic practice, and scientific research facilities take effect July 1, 1989.

HEA 1992 — requires the health facilities council to adopt rules to establish course requirements, necessary fees, and functions that may be performed by qualified medication aides. This Act takes effect July 1, 1989.

Insurance

- SEA 311 requires companies providing certain types of liability insurance to file with the department of insurance, as an additional part of their financial statement, figures indicating allocated and unallocated loss adjustment expenses.
- This Act takes effect January 1, 1990.
- SEA 363 entitles individuals who are at least 50 years of age and who are beneficiaries of qualified long term care insurance policies to participate in the Indiana long term care program when the individuals are 65 years of age if the individual satisfies additional existing requirements;

- —requires the budget agency to study the cost to consumers of purchasing a qualified long term care policy and report the results to the governor before October 1, 1991;
- —appropriates \$25,000 to the budget agency to conduct the study. This Act takes effect May 5, 1989.
- SEA 396 prohibits a Mcdicare supplemental insurance policy, contract, or certificate to contain benefits that duplicate benefits provided by Mcdicare;
- —requires the insurance commissioner to adopt rules establishing minimum standards for benefits and claims payments under Medicare supplemental policies;
- —requires every entity providing Medicare supplemental insurance or benefits to provide a copy of any Medicare supplemental advertisement to the insurance commissioner for review or approval. This Act takes effect April 27, 1989.
- HEA 1133 defines "medically necessary" for the purposes of the Indiana Comprehensive Health Insurance Association (ICHIA) as services that ICHIA has determined are recommended by a physician, are commonly recognized as appropriate in the treatment of the diagnosed illness, and are not primarily for education or training;
- —restates that ICHIA is allowed to implement cost containment procedures including preadmission review and case management; —allows ICHIA to establish procedures permitting an ICHIA policy to be issued without any limitation on pre-existing conditions to one whose insurance policy is scheduled to expire for a reason beyond the policyholder's control.

This Act takes effect July 1, 1989.

● HEA 1289 — removes the requirement that a person is not eligible for a health policy from the Indiana Comprehensive Health Insurance Association until rejected by two carriers for coverage substantially similar to the association plan.

This Act takes effect July 1, 1989.

- HEA 1374 requires health insurers to use simplified language in billings and communications with patients;
- —requires the explanation to set forth a toll free number that the insured may call to obtain additional information.

This Act takes effect January 1, 1990.

Licensed Practitioners

- SEA 289 exempts hospitals and health care organizations whose members or partners are licensed health care providers with an employment or contractual relationship with a physician from the statutory definition of the practice of medicine as long as the entity does not practice medicine or direct or control the independent medical acts or decisions of the physician:
- —provides that a physician who permits or authorizes a person to fill or refill a prescription or drug order except as authorized by the physician is subject to disciplinary action (the unlawful practice of medicine);
- exempts hospital-owned or operated pharmacies from the prescription drug provisions;
- —provides that a person who, with intent to defraud, misrepresents a person as being a physician, commits deception (a Class A misdemeanor).

This Act takes effect July 1, 1989.

- SEA 337 adds advanced EMTs and paramedics to the list of professionals who may be used by law enforcement to obtain bodily substance samples when an officer believes a person who has been involved in an accident resulting in serious bodily injury or death was operating a vehicle under the influence of alcohol;
- —establishes the "state user fee fund," to be distributed semiannually to the "alcohol and drug countermeasures fund," "drug interdiction fund," "drug prosecution fund," "corrections drug abuse fund," and "local law enforcement drug abuse prevention fund."

This Act takes effect July 1, 1989.

- SEA 423 allows a student in the final year of course work at a chiropractic school or a recent graduate of a chiropractic school to practice chiropractic under the direct supervision of a licensed chiropractor;
- -requires a person to be eligible for licensure as a chiropractor to be a graduate of an incorporated chiropractic school or college accredited by the Accreditation Commission of the Council on Chiropractic Education;
- —allows the board of chiropractic examiners to issue temporary permits to graduates of chiropractic schools to practice chiropractic.

This Act takes effect July 1, 1989.

● SEA 511 — allows accreditation by the Commission on Dental Accreditation of the American Dental Association to be recognized by the state board of dental examiners as evidence that a dental hygienist education program has met all or part of the standards established by the board.

This Act takes effect October 1, 1989.

- SEA 560 allows an out-of-state physician, podiatrist, psychologist, chiropractor, or dentist to refer patients to a physical therapist licensed in Indiana;
- —provides that teaching, researching, providing advisory services, or conducting seminars on physical therapy is not considered to be the practice of physical therapy.

This Act takes effect July 1, 1989.

- HEA 1943 requires the state board of health to adopt rules requiring nursing registries to obtain a certificate of registration before advertising or operating;
- —requires a person who owns a nursing registry to be insured by a policy of malpractice liability insurance in the amount of at least \$100,000 for each occurrence and \$500,000 in the annual aggregate or provide other financial security approved by the state board of health.

This Act takes effect July 1, 1989.

● HEA 1507 — provides that a licensed audiologist is not required to hold a hearing aid dcaler certificate of registration in order to fit or dispense hearing aids.

This Act takes effect July 1, 1989.

Local Health Departments

- HEA 1058 continues the existence of the state board of health:
- —allows the state board of health to issue civil penalties against persons for the improper operation of a radiation machine or employing a person who is not certified to operate the radiation machine (including industrial radiation machines);

- —allows the state board of health to issue civil penalties for the violation of the statutes or rules governing the state board of health:
- —requires all counties to establish a county health department with some exceptions;
- —requires all county boards of health to be appointed by the county executive with the exception of counties with second class cities and specifies the qualifications;
- —provides that the county board of health shall appoint a health officer subject to the approval of the state board of health (the health officer must be a physician);
- —provides that the fiscal body of the county shall assess an annual levy on the assessed valuation of taxable property for the maintenance of the health department;
- -allows the state board of health to assess fees for specific services:
- —allows two or more adjacent counties to form a multiple county health department if approved by the county's executives and the state board of health;
- —provides for the establishment of multiple county boards of health and the health officers;
- —allows the part-time city health departments in Lake County to continue to exist after 1989;
- —allows the city-county health departments in Vanderburgh County, Floyd County, and Elkhart County to continue to operate after 1989;
- —provides that the health departments in Tippecanoe County have until 1992 to form a single county health department;
- —provides that the state board of health is the state agency designated to accept delegation from HHS and to adopt rules to carry out the new federal clinical labs law (PL 100-578).

The sections of this Act dealing with radiation machines, civil penalties, and fees take effect July 1, 1989. The sections dealing with county health departments and multiple county health departments take effect January 1, 1990.

Mental Health

- SEA 352 establishes a commission to study the problems of adult patients who are discharged from state mental health institutions;
- —provides that the commission shall consist of fifteen members appointed by the governor;
- —provides that the commission shall study the housing and employment needs of adult patients who are discharged from state mental health institutions and the economic and social impact on the local community of discharged adult patients;
- —provides that the commission shall submit a report to the governor by October 1, 1990, containing its findings, conclusions, and specific legislative recommendations.

This Act takes effect July 1, 1989.

● HEA 1575 — allows psychologists in community mental health centers to submit requests for Medicaid prior authorization without the supervision or order of a physician. (Psychologists in private practice are currently allowed to do this.)

This Act takes effect July 1, 1989.

● HEA 1759 — adds a representative of the department of mental health to the Alzheimer's disease and related dementia task force.

This Act takes effect July 1, 1989.

● HEA 1903 — increases from \$200 to \$400 the amount the superintendent of a psychiatric hospital may bill the county for clothing for a mentally ill person who has been admitted to a psychiatric hospital;

—requires the superintendent of a state mental health institution to provide copies of the patient's plan of discharge or placement to a service monitor when the patient is discharged or placed on an outpatient status.

This Act takes effect July 1, 1989.

Peer Review

SEA 240 — adds: community mental health centers, private psychiatric hospitals, committees organized by the governing board or the medical staff of a hospital, or the committees of a professional health care organization, and the interdisciplinary committees organized by health care providers to conduct evaluations of patient care services, to the definition of qualified providers under Indiana's peer review statute;

—provides that the peer review committee may waive the confidentiality provisions of the peer review committee's communications in order to allow the attorney general to conduct an investigation under the provider's disciplinary act to identify information otherwise discoverable or admissible under law;

—provides that the attorney general may obtain, by a subpoena issued to a health care provider for a violation of the provider's disciplinary act, the provider's application for employment or privileges and any incident reports that are used to document an accident involving this provider. This would not, however, include reports or records prepared as part of the peer review investigation;

—provides that the subpoena issued by the attorney general to obtain the records for an investigation shall identify the documents sought and the specific provider under investigation.

This Act takes effect July 1, 1989.

Professional Liability

● HEA 1777 · — provides that the total amount recoverable for acts of medical malpractice from the Patient's Compensation Fund under the Indiana Medical Malpractice Act may not exceed \$750,000;

—provides that this increase in the cap on awards is applicable for acts of medical malpractice that occur on or after January 1, 1990. This Act takes effect July 1, 1989, but does not affect the cap on awards until January 1, 1990.

Public Welfare/Medicaid

SEA 449 — provides Mcdicaid coverage to pregnant women and children less than one year of age who have a family income that does not exceed 100% of the federal poverty level after June 30, 1989, 125% of the federal poverty level after June 30, 1990, and 150% of the federal poverty level after June 30, 1991;

—covers children who are at least one year of age but less than three years of age in families whose income does not exceed 100% of the federal poverty level beginning in 1989;

—provides for case management services for the qualified pregnant woman;

—provides that the payment rate for services may be either prospective, retrospective, or any combination of these methods. The section pertaining to the payment rate takes effect May 5, 1989. The section pertaining to case management services takes effect January 1, 1990. The remaining sections take effect July 1, 1989.

SEA 538 — requires the department of public welfare (DPW) to establish a program to train relatives of persons eligible for community and home care services to provide homemaker and personal care services;

—provides that relatives who complete the training would be eligible for reimbursement under this program;

—requires DPW to request a waiver from HHS to provide Medicaid reimbursement for personal care and homemaker services. This Act takes effect July 1, 1989.

● HEA 1071 — requires the department of public welfare (DPW) to pay clean claims (Medicaid) within 45 days after receiving all information;

—requires DPW to establish either a 24-hour phone line or a computerized data retrieval system to allow providers access to information on whether an individual is eligible for Medicaid;

—requires the governor's planning council on developmental disabilities to study the impact of adopting the federal definition of "developmental disability;"

—provides that a mentally ill person with a significant mental illness who is either an inpatient, in the process of being admitted to a facility, or is involuntarily confined to a municipal detention facility for reasons other than crime is eligible for protection and advocacy services.

This Act takes effect August 1, 1989.

● HEA 1115 — requires the state department of public welfare to provide an itemized statement of medical payments where the welfare department seeks to perfect a lien to certain persons. This Act takes effect July 1, 1989.

 HEA 1270 — prohibits providers from soliciting persons who do not reside in Indiana to relocate to Indiana in order to receive Medicaid.

This Act takes effect July 1, 1989.

HEA 1801 — amends the ADC-Medicaid law to expand the definition of "medical assistance" to include payments to or on behalf of a child in need of services or a child placed in custody of the county or state department of public welfare. This Act takes effect July 1, 1989.

Other

SEA 78 — establishes the metropolitan poor relief administration council;

—provides that the council shall consist of seven members appointed by the governor;

—provides that the council shall develop administrative guidelines for township trustees concerning the determination of a township's minimum levels of assistance provided through the poor relief program for medical assistance, utility bill payment, clothing, food and shelter, and the conditions for initial and continuing eligibility.

This Act takes effect July 1, 1989.

SEA 120 — requires the state board of health to establish as a pilot project a traumatic injury registry to record all traumatic injuries reported by hospitals and that participation is on a voluntary basis;

-provides that information obtained by the state board of health concerning an individual patient is only for the confiden-

tial use of the state board of health;

—requires a committee of the general assembly in 1991 to review the registry and conduct a cost benefit analysis of the use of the data and to recommend whether the registry should be continued or expanded, and whether participation in the registry should be mandatory;

—appropriates \$15,000 to the state board of health to establish the registry.

This Act takes effect July 1, 1989.

SEA 263 — requires a home health agency to acquire a limited criminal history from a prospective or new employee within ten working days of beginning employment;

—provides that a physician who provides services to a patient in the tempory or permanent residence of the patient is not included under the definition of "home health agency."

This Act takes effect July 1, 1989.

- SEA 299 provides that an affidavit executed within five days of the birth of a child born out of wedlock by the mother and the presumed biological father is a presumption of paternity;
- —requires the paternity affidavit to be filed with the local health officer;
- —requires the state board of health to adopt rules regarding the form, execution, filing, and recording of paternity affidavits. This Act takes effect July 1, 1989.
- SEA 366 requires medical benefits under worker's compensation and worker's occupational disease policies to be continued for police officers and firefighters if the benefits terminate for any reason before the person fully recovers;
- —requires product liability actions based on exposure to asbestos to be commenced within two years after the date the person knows that the damage resulted from exposure to asbestos.

This Act takes effect July 1, 1989.

- SEA 385 establishes an eleven member commission on state health policy consisting of four legislators and seven members appointed by the governor;
- —provides that the commission is to study and make recommendations regarding the effectiveness and delivery of health care services in Indiana including access to health care, costs of health care, and the role of healthy lifestyles and preventive health care;
- —provides that the commission may appoint an advisory committee comprised of representatives of the public and the private sector;
- —provides that the commission is to render its report by November of 1990 and 1991.

This Act takes effect May 5, 1989.

- SEA 543 provides vocational rehabilitation services for employees who are unable to perform work as a result of an injury or occupational disease;
- —requires the office of vocational rehabilitation to determine the eligibility of the injured employee, and where appropriate, develop an individualized rehabilitation plan.

This Act takes effect July 1, 1989.

HEA 1060 — requires the legislative Sunset Committee, in 1990 and 1991, to evaluate agencies with jurisdiction over programs involving senior citizens, disabled, and children. The agencies include the state board of health, the department of public welfare, and the department of mental health.

This Act takes effect May 30, 1989.

● HEA 1096 — provides for a system of guardianship for indigent incapacitated adults, overseen by the department of human services, to be administered on a contract basis by local not-for-profit corporations;

—establishes the adult guardianship services advisory board to assist the department in the administration of the program. The section requiring the governor to appoint members to the board takes effect May 5, 1989. The remaining sections take effect July 1, 1989.

- HEA 1184 requires coroners to make public the following information: 1) the name, age, address, sex, and race of the deceased, 2) the address or location where the body was found and where the death occurred, 3) the agency to which the death was reported and the person reporting the death, 4) any public official or governmental employee at the scene of the death and the person performing the death, 5) the date of the autopsy, the person performing the autopsy, where the autopsy was performed, and conclusions of the autopsy as to probable cause, manner, and mechanism of death, 6) the location to which the body was removed and the authority under which the decision to remove the body was made, and 7) the death certificate required under IC 36-2-14-6 and the corner's verdict required under IC 36-2-14-10;
- —requires coroners to make a full copy of the autopsy report available upon the written request of the next-of-kin or of an insurance company investigating a claim arising from the death of the individual on whom an autopsy was performed;
- —provides that the insurance company may not publicly disclose information from the report beyond that information that may otherwise be disclosed by a coroner.

This Act takes effect July 1, 1989.

- HEA 1236 adds five members of the general public to the interdepartmental board to increase the total board membership to fifteen and membership from the general public from two to seven;
- -states that the purpose of the interdepartmental board is to coordinate human service programs administered by state agencies.

This Act takes effect May 2, 1989.

- HEA 1311 requires the area agencies on aging designated by the division of aging services in each planning and service region to establish, publish, and maintain a toll free telephone number to provide information, counseling, and referral services for the aged residents of the planning and service area;
- —requires the department of human services to pay the costs associated with the toll free telephone number.

This Act takes effect July 1, 1989.

 HEA 1558 — provides that a state agency may develop or implement a wellness program for state employees on state property;

—provides that the purpose of the wellness program is to reduce absenteeism or health insurance premium costs.

This Act takes effect July 1, 1989.

 HEA 1605 — requires the department of human services to establish an office of deaf and hearing impaired services within the division of rehabilitation services;

—allows the office of deaf and hearing impaired services to develop and implement a telecommunications device for the deaf (TTD) telephone relay service to operate twenty-four hours a day.

This Act takes effect July 1, 1989.

HEA 1837 — requires the state board of health to adopt rules to establish programs for the certification of individuals engaged in testing for radon gas.

This Act takes effect July 1, 1989.

● HEA 2042 — requires the state department of human services to establish a long term care ombudsman office to investigate and resolve complaints made by or on behalf of patients, residents, or clients of nursing homes and home care services.

This Act takes effect July 1, 1989.

Vetoes

● HEA 1769 — specifies that an individual applying for an endorsement as a health service provider in psychology may satisfy one year of the two year supervised health service preceptorship requirement;

—establishes procedures for the release of mental health records in child abuse or parental termination cases, whereby, the court must conduct an in camera review to make a determination of good cause by weighing the family's interest and the potential injury to the patient and treatment services if the records are released;

—incorporates into the state law the procedures under federal law for the disclosure of alcohol and drug treatment records.

Legislative Morgue

Each session, legislation is introduced that draws the opposition of the Indiana State Medical Association. Many of these proposals are repeat performances from previous sessions. At the conclusion of the 1989 session, many of these bills opposed by the ISMA did not make their way through the legislative process. The following is a listing of bills that died during this session

and that now rest in the LEGISLATIVE MORGUE:

HB 1345 — would raise the cap on medical malpractice awards to \$1 million;

HB 1919 — would provide for annual increases in the medical malpractice cap tied to the consumer price index; HB 1594 — would prohibit a physician from dispensing

medications from the office;

HB 1574 — would mandate generic substitution on all prescriptions unless the physician wrote "brand medically necessary";

HB 1862 — would mandate \$30 million in savings in the Medicaid program including requiring the physician's reimbursement under Medicaid be no more than what Medicare pays;

HB 1939 — would mandate the Medicare assigned rate as payment in full as a condition of licensure;

HB 1430/SB 101/SB 555/HB 1033 — would certify seven types of mental health counselors including social workers, marriage and family therapists, and mental health counselors; HB 1398 — would allow a physical therapist to treat a patient without a physician's referral;

HB 1876 — would license respiratory therapists:

SB 285 — would allow chiropractors to take chest x-rays; SB 192 — would mandate that insurance policies cover spinal manipulations.

Nursing's image in Indiana_

Editor's note: This article, the summary of a study conducted by Sigma Theta Tan International, was prepared by the Indiana Hospital Association. It is reprinted here with the permission of the IHA.

L he Indiana Hospital Association awarded a grant in 1988 to Sigma Theta Tau International, the honor society of nursing headquartered in Indianapolis, to conduct research on the image of nursing in Indiana.

The objectives were: 1) to clarify the perceptions of the nursing profession among those making career choices and those who influence the decision-making process; and 2) to identify which aspects of a career (i.e., pay, power, recognition, etc.) are most highly valued by the various publics and to see how nursing compares.

The results will be used by the hospital association members and others to enhance recruitment into nursing. The data gathered can be used either to develop messages to correct misperceptions or to pinpoint changes needed in the profession to make it more competitive with other career options.

Methodology

Sigma Theta Tau assembled a research team comprising three faculty members of the Indiana University School of Nursing. The team worked with an advisory committee consisting of Sigma Theta Tau leadership, IHA staff, nurse educators, researchers and clinical specialists.

Questionnaires to measure attitudes, beliefs and values were developed and distributed to 10,000 people statewide through

the assistance of local school systems. Targeted groups were students in grades 6 through 12, college freshmen, parents, teachers, guidance counselors and school nurses. All adult participants also were able to indicate any interest in changing careers, thereby establishing an additional target group. Completed responses were received from 1,155 people.

Positive interpersonal relations on the job are far more important to Indiana residents than pay or power.

Respondents were first asked their beliefs about an ideal career. On a five-point scale from strong agreement (5) to strong disagreement (1), they reacted to a variety of statements such as "It is important to my career that I make a lot of money" or "... that I always have a job."

The survey participants were then asked to share their perceptions of nursing. They used the same five-point scale to react to such statements as "Nurses work in safe places" and "Nurses are

respected by others."

The research team used a variety of statistical procedures to test the validity of the questionnaire, assess the internal consistency of the responses and identify significant differences between the dimensions on the nursing scale and ideal career scale.

Copies of the study, titled "Attitudes, Values and Beliefs of the Public in Indiana Toward Nursing as a Career: A Study to Enhance Recruitment into Nursing" are available from Sigma Theta Tau International, 1200 Waterway Blvd., Indianapolis, IN 46202. The cost is \$10 per copy, prepaid.

Highlights from the study

The image of nursing – The Sigma Theta Tau study indicates that Indiana residents view nurses as caring, hard-working people whose jobs require a great deal of both brain power and physical labor. They do not see nurses as highly respected, highly appreciated or highly paid, and they are concerned about the safety of the nurse's workplace.

Ideal career attributes – Positive interpersonal relations on the job are far more important to Indiana residents than pay or power. The study reveals that the general public considers respect and appreciation as the two most desirable characteristics of an ideal

The freedom to think and act independently and the opportunity to care for others also are highly valued. Career attributes related to pay, leadership, power and use of technology are rated lower than human relations issues.

How nursing measures up -Sigma Theta Tau researchers found that Indiana residents have positive attitudes about nursing. It meets their ideal career criteria in regard to:

- opportunities for employment;
- application of intellectual abilities;

 scholastic achievement as a prerequisite for career development; and

opportunities to demonstrate

a caring attitude.

However, the study concluded that the public perceives nursing to be less than ideal with respect to financial rewards, respect, appreciation and power. Compared to nursing, the respondents' ideal careers would provide more opportunities for leadership, independent decision-making and obtaining knowledge.

The survey participants see nursing having a heavier, harder workload than their ideal jobs and they think nurses have a higher safety risk than they desire. They indicated their ideal careers would have less emphasis on manual skills and less reliance on high technology than nursing

Differences among subgroups – The research team found that students in grades 6 through 12 had more positive attitudes about nursing than did any of the other subsets - parents, teachers, counselors, college students or school nurses.

Teachers, counselors and school nurses have more negative feelings about nurses' pay than the other groups.

Safety in the workplace is a greater concern for parents than other respondent groups.

For students of all ages, the largest gap between their perception of nursing and their ideal careers is on the issue of independent decision-making. They value it very highly and nursing falls short on this expectation.

Recommendations

The research team's analysis of the data led them to pinpoint 13 issues that should be addressed in For students of all ages, the largest gap between their perception of nursing and their ideal careers is on the issue of independent decision-making. They value it very highly and nursing falls short on this expectation.

nursing promotion or staff retention projects. Their recommendations are summarized below:

Intellectual application – Because the public believes that nursing matches its expressed need for intellectually stimulating jobs, recruitment programs should reinforce this positive attribute of nursing.

Caring for people – The public values caring for others as a career attribute and recognizes that nursing provides ample opportunities for caring. Programs recruiting people into the field of nursing should reinforce this fact.

Job security – The public perceives nursing to have an adequate amount of job security. This positive attribute should be highlighted in recruitment programs.

Scholastic and academic achievement – The public believes that an ideal career requires going to college and making good grades in the process. This is also seen as a requirement for nursing; therefore, recruitment programs should stress the educational preparation and scholastic achievement necessary for a nursing career.

Respect and appreciation – Respect and appreciation are the most highly valued career attributes in Indiana, and the public thinks nurses are not sufficiently respected or appreciated. Nurse employers should examine methods for increasing recognition

programs for nurses and for publicizing instances of positive patient and colleague feedback.

Autonomy – The general public does not believe nursing provides enough opportunities for professional decision-making. Nurses should articulate the need for autonomous scope of practice and be given increased latitude for such practice. Communications programs should delineate the multiple independent decisions and judgments nurses make daily.

Safety – Safety in the workplace is a primary public concern, and nursing is seen as somewhat unsafe. Recruitment programs should focus on the fact that nursing practice is built on a knowledge base that reduces risk. Preventing the spread of disease in a hospital environment, for example, is part of nursing's responsibilities.

Workload – Indiana residents perceive nursing as hard work, with a heavy workload. Employers should use available research to develop methods for reducing the workload and non-nursing functions nurses currently perform.

Accommulating knowledge – The public perceives that nursing does not involve accumulating and applying as broad a knowledge base as an ideal career might demand. Recruitment programs should accurately portray nurses using the entire scope of their

background in the humanities and the sciences. Nurses also should be shown as contributors to knowledge-building in health care and as participants in research.

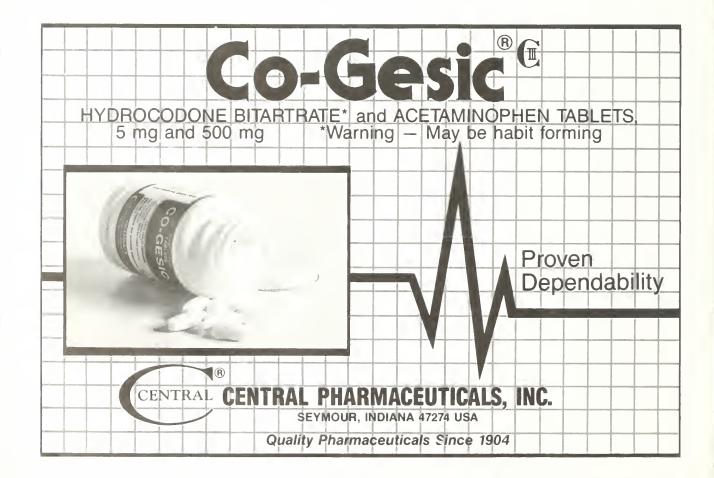
Compensation – Nursing is seen as a low-paying career. Greater public awareness is needed of the current and projected income ranges of nurses. Employers should continue to improve nursing salary levels and to expand salary ranges.

Leadership – The public perceives nursing as a career offering fewer opportunities for leadership than an ideal career. Recruitment programs should clarify the formal and informal opportunities within the profession for leadership, from committee assignments and consultant roles to supervisory and mentor tasks. Employers should encourage professional continuing education and association activities as avenues to leadership.

Technician vs. professional – Indiana residents believe nursing requires too much physical labor and involves too much technology. The opportunities for nontechnical practice should be publicized. The roles of nurses in health promotion, quality assur-

ance, risk management, psychiatric care, etc. need to be highlighted. Nurses should be portrayed in non-technical settings such as outpatient clinics, schools, industry and community health centers.

Power – The public feels that nursing does not provide sufficient opportunity to exercise power – to effect change. Nurses should be encouraged to participate whenever possible in institutional governance and in governmental affairs. Nurses' roles in development of health policy and law should be portrayed.



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Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors—Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it, however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon* is indicated as a sympathicolytic and mydriatric. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug. ^{1,2} Also dizziness, headache, skin flushing reported when used orally. ^{1,3}

Dosage and Administration: Experimental dosage reported in treatment of erectile impotence. 1,3,4 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to $\frac{1}{2}$ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks. 3

How Supplied: Oral tablets of Yocon* 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

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guest editorial

The case of Dr. Y

William A. Leitner, M.D. Immediate Past President Medical Association of the State of Alabama

I am presenting this column because I have been struck by the number of young physicians who have been afflicted with the problem below; and for the additional reason that many of them seem to have no idea of the impact of the loss of professional privileges.

I hope this serves as a warning as well as an object lesson.

The following is a case history of an Alabama physician, Dr. Y, not yet 40, who fell victim to what has almost become the American Disease, chemical dependency.

In his present relaxed and confident mood of candor and honesty with himself, he traces the history of his addiction to undergraduate school, fraternity parties and the rest of the familiar scene. He now knows he had a problem with alcohol then, although he did not think so at the time. (Denial begins early.)

gins early.)

In medical school, his dependency grew, although he could make himself believe it was manageable. In any case, he could quit when he wanted to, he assured himself. His fondness for the euphoria and release of ethanol was very different, he told himself, from what he knew of true alcoholism. (The brain of man is a marvelous organ, but just as it has the capacity for seemingly infinite creativity and wisdom, so does it have the capacity for self-deception.)

He carried the monkey on his shoulders into practice. Some five years before his real troubles began, he had joined Alcoholics Anonymous (AA) and quit drinking. "I thought I had it licked," he now says with an edge of disbelief in his voice.

The terrible proof that he did not have it licked came in what first appeared to be a minor event. To ease the misery and discomfort of an upper-respiratory infection, he prescribed for himself a potent narcotic, readily available in his office in the profusion of samples from pharmaceutical detail men.

In no time he was hooked. "More than anything in life I wanted that drug," he says today,

almost incredulously.

It was there for the taking, and he took it. He continued to dose himself even after his family and colleagues knew something was wrong. When confronted, he recalls, "I lied up and down. I lied to everyone. Worst of all, I lied to myself."

Summoned before the Board of Medical Examiners, he was suspended by action recommended to the State Licensure Commission. A few months later, his license was revoked. With the obvious pain of recall, he now says, "I was filled with rage and hostility. I blamed my troubles on the Board of Medical Examiners and the Licensure Commission. I felt I had been dealt with unjustly. My anger became as great as my denial."

And now?

"Now I know the board saved my life. I know that. I could not see that then because of my total dependency of the drug. Anyone who challenged me or tried to stand between me and it were my enemies."

As a recovering addict, he has had ample time to look at what happened and to talk about with candor and objectivity, even a flash of sardonic humor, as in this insight:

"Do physicians have a different problem than others with drug dependency? Fundamentally, no. We are just like other addicts. The differences are these, I believe: We have an ego problem that may be worse than some have. We have availability. And we don't usually work in a 9 to 5 setting, directly and constantly answerable to someone over us.

"We think we control a lot of people and are therefore in control of ourselves. This may be an important difference. A final difference is that we can account for absences more conveniently perhaps than others do. We can be 'at the hospital' or 'called to an emergency' and all that.

"But apart from these, we are the same flesh and bone as others who become chemically dependent. We are no better than they and no more likely to whip it

alone than they."

In some ways, chemical dependency is the great equalizer. During his more than a year of revocation, Dr. Y busied himself with basically two things – going to AA and Narcotics Anonymous every day, working hard on the famous "12 steps," and tending to a small business he had, luckily, invested in some years earlier.

"There was nothing else I could do. Medicine is all I know. We lived on the earnings from that and on savings. At that, I was luckier than some I know, who have nothing to fall back on.

"It is a terribly empty feeling; days can be interminably long. You are suddenly taken away from not only your income but the structure of your life. Without AA, I could have not made it."

A physician friend was six months ahead of him in the disci-

■guest editorial

plining process. He too turned to business after license revocation, but, unlike Dr. Y, he did not resume practice when his license was restored. He says he never will.

Dr. Y was returned to his practice some months ago after a hiatus of more than a year. Does he enjoy his life and practice now?

"You bet, more than ever."

Is he optimistic about the future?

"Absolutely. I have relearned what optimism means."

Then, does he think he is cured and that it is all behind him?

"No. I will never be cured. I have the disease. But, I have learned to live – stress *live* – with it and without drugs."

And what would he say to other physicians, perhaps with a similar problem, who may even now be reading this?

"Be absolutely honest with yourself. Absolutely honest. You can't be helped until you are. That's the first step, and the hardest one – total honesty with yourself."

Dr. Y is, once again, a delightful conversationalist. He laughs easily and often, usually at himself. He appears free of all self-pity, hostility and old demons. That goes with the new territory, his rediscovery of life.

In a perfect world, no physician would sink as low as Dr. Y admits he did.

But it is not a perfect world. There may be those reading this who know, or should know, they have Dr. Y's disease. I concur in his stressed advice: Be absolutely honest with yourself. In this re-

gard, at least, the old homily is true: The doctor who treats himself has a fool for a patient. You can't lick it alone.

In this important work, physicians are their brother's (and sister's) keeper. I hope the case of Dr. Y illustrates the importance of early intervention to rescue a physician from the inevitable endpoint of the substance abuse trajectory.

When this article was written and originally published in Alabama Medicine, the author was president of the Medical Association of the State of Alabama.

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commentary

Wedging the lock of the grip tight

Richard J. Noveroske, M.D. Newburgh

The anatomist J. C. Boileau Grant said in his *Method of Anatomy Textbook and Atlas* that the small finger and its metacarpal are responsible for locking the grip tight when one grabs a pole or tries to climb a rope hand over hand.

He showed us that the head of the small finger's metacarpal goes down in relation to the other metacarpal heads, and the small finger shifts slightly toward the ring finger when the grip is locked tight.

This is due to several muscles and joints. The flexor muscles of the small finger obviously are involved. But, the small finger and its metacarpal also have their own opponens muscle in a deep layer of the palmar muscles. This opponens muscle is in the hypothenar eminence and is a counterpart to the more prominent opponens muscle in the thenar eminence of the thumb.

The physical force that locks the

grip though appears to be a wedge effect of the small finger as it moves 2 mm or so radially and tries to force itself into the gripping ring – to wedge or force its smaller arc into the potential space between the gripped pole and the larger arc of the ring finger. It is a wedge.

This fact hit me the other day while I was trying to show what Dr. Grant had taught us. Dr. Grant was right. The small finger locks because it is a wedge.

cancer corner

William M. Dugan Jr., M.D. Indianapolis

The St. Elizabeth Hospital Medical Center in Lafayette has announced plans for the first Indiana-based Adult Cancer Camp. This camp will be held Oct. 3 to 5 at the 4-H Leadership Camp near Lafayette. This project, under the co-sponsorship of the Walther Cancer Institute, will enhance coping skills, offer education and give peer support for cancer patients.

Volunteer counselors are being recruited for this effort. For further information about this camp, call the St. Elizabeth Oncology Department at (317) 423-6206.

Southern Indiana residents may attend Camp Bluebird, a three-day and two-night camp for cancer patients in Louisville, Ky. This camp offers patients and their families the opportunity to discuss issues such as chemotherapy, radiation therapy, pain control, diet and exercise.

For further information, call King's Daughters Hospital in Madison, Ind., at (812) 265-5211.

The Indiana Medical Oncology Society recently elected a new board of directors. Members are: Lloyd Everson, M.D., president; Robert Woodburn, M.D., vicepresident; Screenivasa Nattam, M.D., secretary; William Dugan, M.D., treasurer; and Juan J. Correa, M.D., and Raymond Harwood, M.D., board members.

The society currently is studying a proposal for the structure of the professional medical oncology component for antineoplastic service with the intent of working with insurance reimbursement. The society also is considering the policy for reimbursement of offlabel use of chemotherapy drugs. The policy for reimbursement of patient care and drugs used during clinical trials also is being reviewed by the board.

Society membership is open to any medical oncologist. The current membership is 37 physicians. To join this group, call Dr. Everson at (317) 353-4758.

Upcoming meetings: Sept. 22 – Riverside Regional Cancer Institute in Columbus, Ohio, will address "Wellness and Quality of Life Issues in the Cancer Patient." Well-known Oncology Nursing Society leaders Marilyn Frank Stromberg, R.N., Ed. D., and Catherine Hogan, M.N., OCN., will be two of the speakers.

For more information about this program, call 1-800-752-9119.

Oct. 15 to 19 – The George Washington University Medical Center will sponsor a "Medical Oncology Board Review Course." This five-day course is designed for the fellow in training, the physician planning to take the Medical Oncology Board examination and/or the practitioner of hematology/oncology.

The course offers extensive coverage of both established information and recent clinical and scientific advances in medical oncology. This comprehensive review and update of medical oncology will include: epidemiology, medical complications of malignancy, hematologic malignancies, lung cancer, breast cancer and AIDS.

This program offers up to 38 hours of Category 1 credit. For further program information, call Daniel Reichard at (202) 994-4285.

State Board of Health Regulation 410, effective Feb. 16, 1989, addresses the handling and disposal of antineoplastic agents and infectious waste.

Smaller offices and hospitals with a total gross weight of less than 100 Kg/month/waste are exempt from this regulation. The method of measurement of this type of chemotherapy waste is a key factor.

If the materials handling department of your office or hospital is not familiar with this regulation, call the State Board of Health.

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(Reserve the right to change speakers and events if necessary.)

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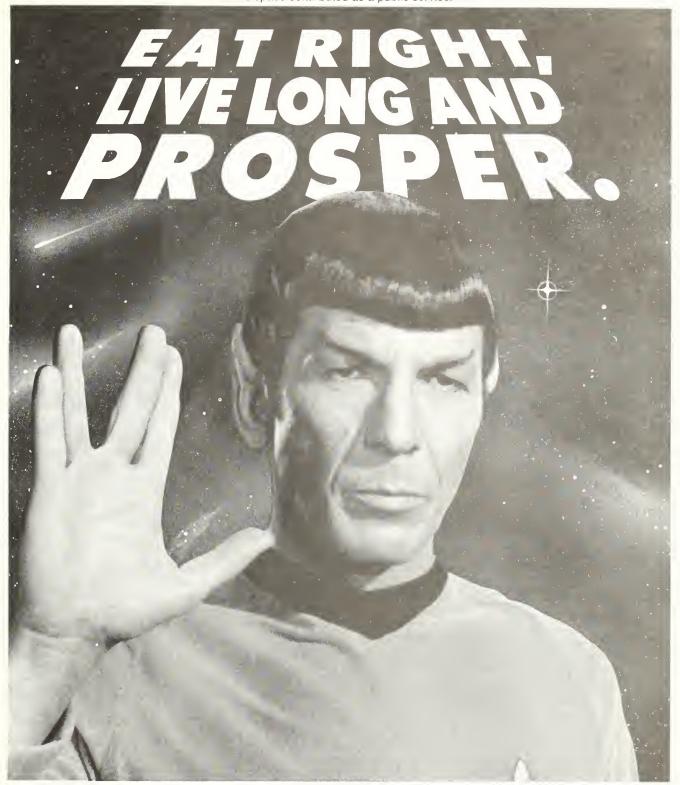
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news briefs

Study confirms link

A study in the May 5 issue of *JAMA* offered more confirming evidence of the link between aspirin use and the potentially fatal Reye's syndrome. Several other reports, including a major Public Health Service study, have found strong evidence of such a link, as applied to children and adolescents during a viral illness.

This study involved 24 cases and 48 matched controls. It found that 88% of the cases, but only 17% of controls, received aspirin before the onset of Reye's. Those with Reye's were 35 times more likely to have used aspirin, the study says. The authors of the study say it demonstrated that the Reye's-aspirin link could not be due to study biases, eliminating methodological error as the explanation for the association.

Monograph available

A newly published monograph on single donor platelet therapy is available from Component Therapy Information Bureau, an educational service of Baxter Healthcare Corp., Fenwal Division. "Single Donor Platelets in Transfusion Therapy" includes information on indications for platelet therapy and a comparison of multiple and single donor platelets. Alloimmunization, transfusion-associated diseases and graftversus-host diseases are discussed. For a free copy of "Single Donor Platelets in Transfusion Therapy," contact the Component Therapy Information Bureau, P.O. Box 620, Deerfield, IL 60015 - (312) 940-6400.

Patient program expanded

G.D. Searle and Co. has announced that it is expanding its "Patient in Need"" program by

adding Cytotec, a new anti-ulcer medication used by arthritis patients.

In 1988, Searle launched the "Patient in Need® program." Searle agreed to furnish without charge its most widely used drugs for the treatment of heart disease to patients who could not afford the medication. More than 65,000 indigent patients have redeemed 200,000 certificates - each good for a month's supply of medication. This year, it is estimated that physicians will distribute an additional 600,000 certificates.

Book focuses on rural health

Health Services Research, a book containing the research conducted by the National Rural Health Association and the Foundation for Health Services Research, is now available. At a congressionally mandated conference in December 1987, these organizations summarized the research on key rural health issues.

This 355-page special issue contains the background tables, stimulus papers and perspective papers used as catalysts for discussion by leaders in the rural health research field. A summary of the conference findings and recommendations also is included. To order a copy of *Health Services Research*, write National Rural Health Association, 301 Armour Blvd., Suite 420, Kansas City, MO 64111.

Recruiting publication started

A new national biweekly publication, *Medical Career Opportunities*, has recently been started by MRJ Medical Publications. The publication, which is devoted exclusively to medical professional recruitment advertising, was created to help overcome the short-

age of qualified medical personnel and the difficulties currently associated with recruitment. In addition to advertising, the publication will include relevant editorial materials contributed by medical professionals. For more information, contact James Ruley, Publisher, Medical Career Opportunities, 5310 S. 56th St., Lincoln, NE 68516 – (402) 423-2825.

How-to AMA book available

The Business Side of Medical Practice is a new American Medical Association book designed to provide information to successfully start and manage a medical practice. The 166-page book includes topics such as computers in the medical office and pros and cons of practicing as a sole proprietor, partnership or professional corporation.

The book is \$30, and AMA members will receive a 20% discount. To order a copy, contact the American Medical Association, Book and Pamphlet Fulfillment, P.O. Box 10946, Chicago, IL 60610-0946 – 1-800-826-6895. VISA and Mastercard are accepted.

Video conference to be aired

"Common Ground: An Interspecialty Approach to the Glaucoma Patient," a live, interactive, CME-accredited video conference, will be aired Thursday, Sept. 28, at 2 p.m. EST on the Hospital Satellite Network and downlinked to more than 15 hospitals in the country.

Ted Koppel will moderate a panel of leading ophthalmologists and primary care physicians. Physicians may register to attend by calling 1-800-833-3480. For more information, call Carol Fontanella at (201) 273-9626. □

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3 - Pres. Richard P. Gardner, New Albany Secy: C. M. Hocker, New Albany Annual Meeting May 9, 1990

4 - Pres: Howard C. Jackson, Madison Secy Warren R. Rucker, Madison Annual Meeting. May 2, 1990

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6 — Pres: Daniel P. Rains, New Castle Secy: Dennis L. Roberts, Shelbyville Annual Meeting, May 9, 1990

7 — Pres. George A. Donnally, Mooresville Secv. 11. Marshall Trusler, Greenfield Annual Meeting 1990

8 — Pres Susan K. Pyle, Union City Secv. Jerome M. Leahey, Union City Annual Meeting June 6, 1990

9 — Pres: Timothy N. Brown, Crawfordsville Secy R. Adrian Lanning, Noblesville Annual Meeting: June 13, 1990

10 - Pres. Thomas A. Brubaker, Munster Secv. Barron M. Palmer, Hammond Annual Meeting June 27, 1990

11 — Pres James P. McCann, Wabash Secy Fred C. Poehler, La Fontaine Annual Meeting: Sept. 20, 1989.

12 - Pres Thomas D. Smith Ill, New Haven Secy: William J. Aeschliman, Fort Wayne Annual Meeting. Sept. 21, 1989

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Tina Sinis, INDIANA MEDICINE

people

Dr. W. D. Snively Jr., M.D., Evansville, received the Honorary Degree of Science from the University of Evansville May 6. Dr. Snively was in private practice in Rock Island, Ill., and later served as a Navy physician from 1941 to 1946. After World War II, he became a medical consultant for Mead Johnson and later became vice president and medical director. Dr. Snively eventually became executive vice president and then returned to his medical directorship. He has been director and president of the American Medical Writers Association. From 1970 to 1976, he served as professor of life sciences at the University of Evansville and, in 1976, became professor emeritus. He is a recipient of the Gold Medal of the American Medical Association. He has been a member of the editorial board and a consulting editor of INDIANA MEDI-CINE for many years. He has been the author of more than 250 articles, textbooks, books and monographs.

Dr. George T. Lukemeyer, executive associate dean of the Indiana University School of Medicine, was named a master of the American College of Physicians (ACP), the highest honor awarded by the organization; he was honored during the ACP's annual session in San Francisco.

Dr. Dean D.T. Maglinte, chief of gastrointestinal radiology at Methodist Hospital in Indianapolis, was the featured speaker at the 49th Annual Meeting of the Ohio State Radiological Society held at the Westin Hotel in Cincinnati, Ohio, in April.

Dr. William H. Beeson, an Indianapolis facial plastic surgeon and secretary-elect of the American Academy of Facial Plastic and

Reconstructive Surgery, was a speaker at the Academy's Fifth International Symposium in Toronto, Ontario, June 25 to 29.

Dr. Richard M. Storm, an Indianapolis dermatologist, has qualified for the American Academy of Dermatology Continuing Medical Education Award.

Dr. Gregory H. Ellis, an Anderson pathologist, received a three-year appointment as cancer liaison physician for the cancer program at St. John's Health Care Corp. The cancer liaison program is an integral part of the Commission of Cancer of the American College of Surgeons.

Dr. Jeffrey E. Salon, formerly a critical care subspecialist in Fort Wayne, has assumed the position of director of critical care medicine at the Humana Heart Institute International in Louisville, Ky. He also has been elected to membership in the Society of Critical Care Medicine.

Drs. Charles E. Peterson and James P. Kelly, both South Bend cardiovascular surgeons, visited Hong Kong and Beijing in April to tour the medical facilities at the Third Teaching Hospital of Beijing. The doctors performed coronary bypass surgery and assisted in a second surgery.

Dr. Richard B. Linderman, an Indianapolis plastic surgeon, was named a member of the American Aesthetic Society of Plastic Surgeons.

Dr. Donald B. Edelen, an internist and president of the Arnett Clinic in Lafayette, has been appointed to the St. Elizabeth Medical Center Lay Advisory Council.

Dr. Eugene G. Roach, a psychiatrist and medical director of the Anderson Center of St. John's Health Care Corp., received certification from the American Medi-

cal Society on Alcoholism and Other Drug Dependencies.

Dr. Steven R. Smith, director of occupational health and medicine for Community Hospitals Indianapolis, was named a fellow of the newly formed American College of Occupational Medicine.

Dr. Donald E. Clayton, a Lafayette internist, was elected a fellow of the American Academy of Allergy and Immunology.

Dr. Jack H. Hall, an Indianapolis physician, was named the 1989 recipient of the Dave Warholak Volunteer of the Year Award by the American Heart Association.

Dr. Roger B. Hensley, an Elkhart psychiatrist, assumed the direction of Elkhart General Hospital's psychiatric unit June 1.

Dr. Cecil R. Burket, a Bremen general practitioner, retired from his medical practice after 38 years of practice in the Bremen area.

Dr. Hugh C. Hendrie, an Indianapolis psychiatrist and chairman of the Department of Psychiatry at the Indiana University School of Medicine, recently spoke to the Parkinson's Awareness Association in Indianapolis.

Dr. Eugene C. Klatte, chairman of the Department of Radiology at the Indiana University School of Medicine, was named the 1989 Gold Medal Award winner by the Association of University Radiologists.

Dr. Henry C. Bock Jr., an Indianapolis emergency physician, was named a recipient of the Ray Sears Memorial Award for Good Health and Good Living by Sen. Richard Lugar.

Dr. William L. Voskuhl, a Charlestown family practitioner, and **Dr. Florencia M. Dizon**, a Henryville family practitioner, were elected to the North Clark Community Hospital board of

people

trustees at its May meeting.

Dr. Charles X. McCalla III, a Paoli general practitioner, has received recognition for his literary talent. Since last fall, several of his poems have been published in books of poetry.

Dr. Rose A. Wenrich, a Wabash family practitioner, attended a conference on "Cardiovascular Risk Factors," presented by the Midwest Cardiology Research Foundation, in Hilton Head, S.C., in May.

Drs. Joseph J. Evans and Zachary I. Hodes have joined the Indianapolis office of Northside Cardiology, P.C. □

New members Lonnie L. Amico, M.D., Merrillville, neurology.

Janice M. Carson, M.D., Granger, anesthesiology.

Sheeyip J. Chan, M.D., Munster, internal medicine.

James A. Crowe, M.D., Anderson, anesthesiology.

James E. Hansen, M.D., Terre Haute, neurology.

Caesar Y. Ho, M.D., Highland, general surgery.

Elaine C. Kountanis, M.D., Kalamazoo, Mich., neurology.

Thomas E. Kuich, M.D., Muncie, psychiatry.

R. Craig McBride, M.D., Fort Wayne, anatomic/clinical pathology.

Russell E. Mohney Jr., M.D., Kalamazoo, Mich., neurology. Kevin B. O'Dell, M.D., Chicago, emergency medicine.

Catherine E. Reese, M.D., Peru, obstetrics/gynecology.

Marylyn A. Rosencranz, D.O., Crown Point, diagnostic radiology.

Colleen Ryan, M.D., East Chicago, psychiatry.

Ricky B. Yeager, D.O., Boonville, family practice.

Residents

John P. Dormans, M.D., Fort Wayne, orthopedic surgery.

James W. Fleck, D.O., Brownsburg, anesthesiology.

John A. Flickinger, M.D., Zionsville, anatomic/clinical pathology.

□

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obituaries

Howard D. Beaver, M.D.

Dr. Beaver, 72, an Indianapolis family practitioner, died June 19.

He was a 1941 graduate of the Indiana University School of Medicine and an Army Medical Corps veteran of World War II.

Dr. Beaver served as a delegate to the ISMA House of Delegates from 1960 to 1962.

Richard G. Blair, M.D.

Dr. Blair, 63, Huntington, died June 2 at Lutheran Hospital in Fort Wayne.

He was a 1960 graduate of the National University of Mexico School of Medicine. He was a Navy veteran of World War II.

Dr. Blair was medical director of the alcohol and dependency unit at Huntington Memorial Hospital and practiced medicine in Huntington since 1969. He was a member of the Industrial Medical Association and a board-certified medical hypnotist.

Harold L. Ericson, M.D.

Dr. Ericson, 84, died May 25 at his home in Flora City, Fla. He had practiced medicine in Windfall, Ind., 45 years.

He was a 1937 graduate of the

Indiana University School of Medicine.

Dr. Ericson had served as president and vice president of the Tipton County Medical Society. He was a member of the ISMA Fifty Year Club.

Mars B. Ferrell, M.D.

Dr. Ferrell, 74, Fortville, died May 26 at St. John's Hospital in Anderson.

He was a 1941 graduate of the Indiana University School of Medicine. He was an Army Air Corps veteran of World War II, serving as a flight surgeon.

Dr. Ferrell was a general practitioner in Fortville 39 years. He was a member of the American Academy of Family Physicians.

Neal W. Grant, M.D.

Dr. Grant, 34, formerly of New Castle, died May 28 in Lewisburg (Tenn.) Community Hospital.

He was a 1979 graduate of the University of Louisville Medical School.

Dr. Grant practiced obstetrics and gynecology in New Castle and later in Lewisburg, where he worked until his death. He was certified by the American Board of Obstetrics and Gynecology.

James J. Schaffer, M.D.

Dr. Schaffer, 60, a Bloomington pediatrician and researcher, died June 1 at St. Vincent Hospital in Indianapolis.

He was a 1954 graduate of the Indiana University School of Medicine and an Army veteran of the Korean War.

Dr. Schaffer was known for research into the causes of cancer and immune system diseases. He also was doing research that sought to describe any links between the body's immune system and human breast milk. He was certified by the American Board of Pediatrics.

Thomas C. Seybert, M.D.

Dr. Seybert, 56, an Indianapolis general practitioner, died June 4 at St. Vincent Hospital in Indianapolis.

He was a 1958 graduate of the Indiana University School of Medicine and served as a naval flight surgeon with the 2nd Marine Air Wing from 1958 to 1962.

Dr. Seybert opened his Indianapolis practice in 1962 and retired in 1988. ☐

ISMA members, mark your calendars!

WHO: All ISMA members

WHEN: Oct. 27-29, 1989

WHAT: 140th Annual ISMA Convention

WHERE: Westin Hotel in downtown Indianapolis

- In addition to the annual meeting of ISMA's House of Delegates, other special programs have been planned.
- ISMA again will host a theme reception Friday between reference committee meetings. This year's theme is a "Hawaiian Luau," featuring special entertainment and cuisine.

■the human side

Help your people take charge of their jobs

Arthur R. Pell, Ph.D. Consultant, Dale Carnegie & Ass.

It matters not how strait the gate How charged with punishments the scroll. I am the master of my fate I am the captain of my soul.

W.E. Henley: "Invictus"

"I feel good about my job." How many people can say this? Unfortunately, a great percentage of the people in the work force are not that enthusiastic abouth the work they do and the companies for which they work. Why should this be? From the first day on our very first job, somebody is always telling us what to do — the boss. How often do we have the opportunity to have some control over our work life? If we would give our people more say in the way the work they do is done and encourage them to take charge of their jobs, they would have more interest, more commitment and more enjoyment from their work...and this will lead to higher productivity.

Encourage Them to Know Their Jobs

The first step is knowledge. When people know their work well and perform it in a professional manner, they are on the track toward mastery of their work life. When Sal joined his company, he was assigned to the mail room as a messenger and clerk. He hated the work and was ready to guit. In the course of his job, he had to deliver materials to the computer department. He had some computer training in school and conversed with the people in this department about their work. Al, the computer supervisor, noted Sal's interest in computers and requested his transfer to that department. Al encouraged Sal to learn all he could about the equipment and software. In a few months, Sal became as knowledgeable as anybody in the department. He loved the work, felt comfortable and confident, won the respect of his co-workers and became one of Al's most productive people.

Aim for Excellence

Cathy knew that although Christine had been doing good work, she was not performing up to her potential. Cathy had to find a way to motivate her to give an even better performance. She set up a meeting with Christine and told her: "Your work is good. I have no complaints about what you have been doing, but I know that you could and should do better. Had you been less bright, I would be satisfied with what you have been doing, but I see in you the capacity to be one of the very best people in this company. By being satisfied with mediocre performance, you are not aiming high enough. Let's you and I together work out a plan to help you achieve what you are capable of achieving.

They jointly set goals and developed a plan as to how they could be reached. Standards were established so they could measure how close Christine was getting to those goals. They met periodically to evaluate her progress. Within a few months, Christine was doing significantly more effective work and was on her way to an exciting and satisfying career.

Encourage Participation

Behavioral scientists have advocated participative manage-

ment for years. They have shown that when people participate in the decisions that affect their jobs, they are more likely to be committed to the success of those decisions.

One area in which workers can be particularly valuable is the establishment of quotas. In many jobs, quotas are an essential element. Factory workers are given quotas for hourly production, word processor operators are given quotas for letters typed per day; sales representatives for sales volume per month. Who usually establishes the quota? The boss. If the worker would participate in setting the quota, it would be far more effective.

When the supervisor told Jack he must produce 100 units per hour on his machine, Jack thought: "Ridiculous. 70 maybe, 100 never." But suppose the boss took a different approach: "Jack, our competitors are now manufacturing in foreign countries where the cost of labor is much lower. If we want to survive this competition, we have to have more hourly production from each of our people. How much do you think you can do?" Now Jack might think: "The survival of the company is at stake. I can do 90." Not only is Jack now motivated to produce more, but because the quota is his figure, not the boss's he is committed to reach it.

Constructive Discontent

Most people feel they have some control over their jobs when their suggestions and ideas are taken seriously by the company. Nobody expects that all of their suggestions will be taken, but they do expect that they will be given serious consideration. We should instill in our people an attitude of constructive discontent. Nothing should be taken for granted. We have to eliminate the concept that if we always did it one way, it must continue to be done in that way.

In the now past industrial age, it was OK to follow the maxim, "If it isn't broken, don't try to fix it." We are now in the space age and we must think in a new way. "If it works now, it's probably obsolete." We must always be thinking toward the future and encourage all of our people to think, think, think...and not just accept the status quo.

The development of new ideas would be encouraged. Suggestions should be evaluated objectively and, if viable, should be tried. Employees who suggest ideas would be given feedback as to how the ideas are working and rewarded when they are accepted.

If employees sincerely believe that they have some control over their jobs, they are going to make sure that the work will go smoothly and that they are successful in their endeavors. They will be more committed to excellent performance and will look forward to each work day with enthusiasm.

Pocket/purse size reprints may be purchased (10 for \$10.00) or (25 for \$20.00) from Dale Carneigie & Associates, Inc. 1475 Franklin Avenue, Garden City, NY 11530

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OB/GYN RESIDENCY PROGRAM **DIRECTOR** - This 829-bed specialty referral center with 3,400+ deliveries a year, including many high risk, is seeking a full-time director (part-time private practice is available) for its OB/GYN residency program. Applications for boardcertified obstetrician/gynecologists or board-certified/board-eligible perinatologists or other subspecialties will be accepted. Teaching and administrative experience is preferred. Opportunities exist to receive a faculty appointment to the Department of OB/GYN at the Indiana University School of Medicine. Salary and benefits are negotiable and very competitive. Interested applicants should send a current curriculum vitae to: John Payne, M.D., Chairman, Search Committee for Director of OB/GYN Residency Program, c/o Medical Affairs Office, St. Vincent Hospital and Health Care Center, 2001 W. 86th St., Indianapolis, IN 46260. Equal Opportunity Employer.

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INTERNIST BE/BC - North Shore Internal Medicine, PC is seeking an energetic general internist to enjoy the benefits of a rapidly expand-

ing practice. New office close to hospital. Michigan State Medical School Campus. Send resume to 2420 First Ave. South, Escanaba, MI 49829 - (906) 786-1563.

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Contraindications: VASOTEC* (Enalapril Maleate, MSD) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous freatment with an ACE inhibitor. Warnings: Angioedema of the lace, extremilities, lips, tongue, glotts, and/or larynx has been reported in patients freated with ACE inhibitors. Including VASOTEC insuchcases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been continued to the lace and rips, the condition has generally resolved without freatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with faryngeal edema may be fatal. Where there is involvement of the longue, glottis, or larynx likely to cause airway obstruction, appropriate therapy. e.g., subcutaneous epinephrine solution. 1:1000 (0.3 mL to 0.5 mL), should be promptly administered. (See ADVERSE REACTIONS). Hypotension. Excessive hypotension is rare in uncomplicated hypertensive patients freated with VASOTEC alone. Heart failure patients given to continuing symptomatic hypotension usually is not necessary when dosing instructions are followed, caution should be observed when initiating therapy. (See DOSAGE ANO ADMINISTRATION). Patients at risk for excessive hypotension, sometimes associated with oliquira and for progressive accommand a rearror and the propriet of the propr

Precautions: General Impaired Renal Function: As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors; including VASOTEC, may be associated with oliquira and/or progressive azotemia and rarely with acute renal laiture and/or death.

In clinical studies in hypertensive patients with unitateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy in such patients, renal function should be monitored during the first few weeks of therapy

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diureit. This is more takely to occur in patients with preexisting renal impairment. Oosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

tion and/or discontinuation of the dirretic and/or VASOTEC may be required
Evaluation of patients with hypertension or heart failure should always include assessment of renal
function. (See DOSAGE AND AOMINISTRATION.)

Hyperkalemia. Elevated serum potassium (> 5.7 mEp/L) was observed in approximately 1% of hypertensive patients in
clinical trafts. In most cases hese were isolated values which resolved despite continued therapy. Hyperkalemia was a
cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trafts in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes meltitus, and the concomitant use of polassium-paraning durelties, potassium supplements, and/or potassium-containing salt substitutes, which should
be used cautiously, if at all, with VASOTEC. (See Drug Interactions.)

Surgery/Anesthesia. In patients undergoing major surgery or during anesthesia with agents that produce hypotension
considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients

Information for Patients

Angioedema. Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of lace, extremities, eyes, lips, tongue, difficulty in swalfowing or breathing) and to take no more drug until they have consulted with the prescribing physician

Hypotension. Patients should be cautioned to report lightheadedness especially during the first few days of therapy. It actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure, patients should be advised to consult with the physician.

Hyperkalemia Patients should be told not to use salt substitutes containing potassium without consulting their Physician
Physician
Neutropenia Patients should be told to report prompily any indication of infection (e.g., sore throat, lever) which may be

NOTE. As with many other drugs, certain advice to patients being treated with enalaprif is warranted. This information is injended to aid in the safe and effective use of this medication. If is not a disclosure of all possible adverse or intended

Drug Interactions

Drug Interactions on Diuretic Therapy. Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour (See WARNINGS and OOSAGE AND AOMINISTRATION).

**Agents Causing Reinia Release. The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause refinitelesse for a dividence.

cause renin release (e.g., diuretics)

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyf-dopa, nitrates, calcium-blocking agents, hydratazine, prazosin, and digoxin without evidence of clinically significant dopa, nitrates, calcii adverse interactions

Agents Increasing Serum Potassium: VASOTEC aftenuales polassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamferene, or amiforide), potassium supplements, or potassium-containing sall substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Until the wases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be mentioned the causalt. monitored frequently

monitored frequently Pregnancy - Calegory C. There was no letotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity expressed as a decrease in average letal weight, occurred in a given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not letatogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters

There are no adequate and well-controlled studies of enalgorit in pregnant women However, data are available that show enalgorit crosses the human placenta. Because the risk of tetal loxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC* (Enalgorit Maleate, MSO) should be used during pregnancy only if the potential benefit justifies the potential risk to the letus.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome inadvertent exposure limited to the first frimester of pregnancy has not been reported to affect tetal outcome adversely Fedal exposure during the second and third frimesters of pregnancy has been associated with letal and neonatal morbidity and morbidis.

and mortality
When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the text intains exposed in utero to ACE inhibitors should be closely observed for hypotension, oligiunta, and hyperkalemia. If oligiunt accurs, attention should be directed toward support of blood pressure and renal perfusion with the administration of fluids and pressors as appropriate. Problems associated with prematurity such as patent ductus arterious have occurred in association with materinal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

Nursing Mothers Milk in facialing its contains radioactivity following administration of **C enalapril material hypertension, or the underlying are secreted in human milk. Because many drugs are secreted in human milk. Caution should be exercised when **VASOHEC is given to a nursing mother.

Perfature Use. Safety and effectiveness in outdoor but fire have not heen established.

Pediatric Use: Safety and effectiveness in children have not been established Adverse Reactions: VASQTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more: VASQTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients

HYPERTENSIDM. The most freguent clinical adverse experiences in controlled trials were headache (5.2%), dizziness (4.3%), and fatigue (3%).

(4.3%), and langue(3.%)
Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%)
HEART FAILURE. The most trequent clinical adverse experiences in both controlled and uncontrolled trials were dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%)

olarimes (2.1%). Other adverse experiences occurring in greater than 1% of patients freated with VASOTEC in both controlled and uncontrolled chinical trials were latigue (1.6%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), verting (1.6%), angina pectoris (1.5%), aususe (1.3%), vimiling (1.3%), bronchifis (1.3%), dyspina (1.3%), urinary trad infection (1.3%), rash (1.3%), and myocardial infarction (1.2%) of the serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each

calegory

Cardiovascular Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, *Hypotension*), cardiac arrest, pulmonary embolism and infarction, thythm disturbances, atnal librillation, palpitation

Digestive Tleus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis

Nervous/Psychiatric Oepression, confusion, ataxia somnolence, insomnia, nervousness, paresthesia

Urogenital Renal tailure, oliguria, renal dystunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION)
Respiratory Bronchospasm, rhinorrhea, asthma, upper respiratory infection

Skin Herpes zoster, pruritus, atopecia, tlushing, photosensitivity
Other Vascufitis, muscle cramps, hyperhidrosis, impotence, blurred vision, taste alteration, tinnitus

A symptom complex has been reported which may include lever, myalga, and arthraigha, an elevated erythrocyte sedi-mentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disap-peared after discontinuation of therapy.

peared after discontinuation of therapy.

Angioedema Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with a tryingal edema may be falst. It angioedema of the face, extremities, fips, tongue, glotts, and/or faryinx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension. In the hypertensive patients, hypotension occurred in 0.0% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypotension beautiful or 1.2% of patients for the patients in the patients of the patients with heart failure. (See WARNINGS.)

Clinical Laboratory Test Findings

Clinical Laboratory Test Findings
Serum Electrolytes Hyperkalemia (see PRECAUTIONS), hyponatremia
Creatinine, Blood Urea Mitrogen In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with ressential hyperiension treated with VASOTEC alone Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation VASOTEC and/or other concomitant diuretic therapy, were observed in about 1% of patients Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

Hemoglobin and Hemalocrit Small decreases in hemoglobin and hemalocrit (mean decreases of approximately 0.3 g % and 1.0 vol.%, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of chinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

United transfer of a manufacture of the Community of the

Dosage and Administration: Hypertension. In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, it possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) It the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed. If the diuretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for at least two hours and until blood pressure has stabilized for at least an additional hour (See WARNINGS and PRECAUTIONS, Drug

Interactions: The commended initial dose in patients not on diuretics is 5 mg once a day. Oosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses. In some patients treated once daily the anthyperiensive effect may diminish toward the end of the dosing interval in such patients, an increase in dosage or twice-daily administration should be considered. It blood pressure is not controlled with VASOTEC alone, a duretic may be added.

Concomitant administration of VASOTEC with polassium supplements, potassium sall substitutes, or potassium-sparing duretics may lead to increases of serum polassium (see PRECAUTIONS).

Oosage Adjustment in Hypettensive Patients with Renal Impairment. The usual dose of enatapril is recommended for patients with a creatinine clearance >30 mL/min (serum creatinine) to 10 approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) to 10 approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) of 10 approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) of 10 approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) of 10 approximately 3 mg/dL). For patients with reatinine of 10 approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) of 10 approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) of 10 approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) of 10 approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) of 10 approximately 3 mg/dL) approximately 3 mg/dL). For patients with reatinine clearance >30 mL/min (serum creatinine) of 10 approximately 3 mg/dL). For patients with reatinine of 10 approximately 3 mg/dL). For patients with duretics and digitals. The recommended starting dose is 40 mg daily of

For more detailed information, consult your MSD Representative or see Prescribing Information, Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486



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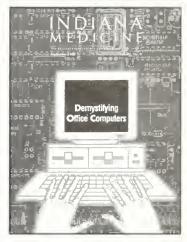


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Dr. Leroy Hood, a molecular biologist, is the recipient of the Stever	n
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■ stethoscope

AMA president to address annual ISMA convention

The Indiana State Medical Association invites all members to attend its 140th annual convention Friday, Oct. 27, to Sunday, Oct. 29, at the Westin Hotel in downtown Indianapolis. The schedule includes the House of Delegates sessions, reference committee meetings, specialty society meetings, the IMPAC luncheon, a general education session, a program for new Fifty Year Club members, a theme reception and the President's Night Dinner. Alan R. Nelson, president of the American Medical Association, will speak at the first session of the House of Delegates. Approximately 50 commercial exhibitors will have booths set up Friday and Saturday. For registration information, call Denise Le Doux, ISMA convention coordinator, (317) 925-7545 or 1-800-382-1721.

Multiple copy prescription rule problems corrected

Physicians' problems with Indiana's new multiple copy prescription rule are being corrected, according to Jon Myers of the Health Professions Bureau (HPB). The rule, which became effective July 1, requires physicians to use triplicate ("trips") prescription blanks provided by the HPB each time they write a prescription for a Schedule Il controlled substance. Physicians who let their medical licenses or Controlled Substance Registrations (CSR) expire were notified by the HPB that they would not receive the "trips" forms until they had renewed their licenses or CSR. Myers said his office can mail the "trips" forms within 24 hours of notification that physicians have renewed their licenses or CSR. He also said "trips" blanks sent to physicians when they re-order will be printed with their first names, followed by their last names and "M.D." Because of a computer programming error, the first forms mailed did not include the "M.D." designation. Myers advises physicians to check the names and addresses on the printed forms to ensure that they have received the correct forms.

ISMA enters case against UMW as amicus curiae

The ISMA has received permission from the Hamilton County Circuit Court to enter an appearance as amicus curiae in a case that has been filed against the United Mine Workers (UMW) Health Benefit Plan. (Amicus curiae is a person called in to advise the court on a legal matter.) The lawsuit alleges that the plan unlawfully interferes with the physician-patient contractual relationship because it instructs insureds not to pay for charges that were not paid by the benefit plan. The plaintiffs maintain that such a plan (in the absence of a specific agreement between the doctor and the UMW plan to accept what the plan pays as payment in full) unlawfully interferes with the right of the physician to collect fees in excess of what the UMW plan pays for various services. The ISMA, as amicus curiae, supports this position.

what's new

Syntex Corporation has received permission from the U.S. Food and Drug Administration to market Cytovene* (ganciclovir sodium, also known by its abbreviated chemical name, DHPG) in the United States for the treatment of cytomegalovirus (CMV) retinitis in immunocompromised individuals, including those with AIDS. CMV retinitis, left untreated, is likely to progress to blindness. Cytovene is the only drug approved in the United States to treat CMV retinitis.

Meritech Inc. has introduced the Meritech 1000™ Automated Handcleansing System, designed especially to reduce the transmission of hospital-acquired infections by the hands of health care professionals. The system integrates effectiveness, consistency, safety, speed and convenience into a self-contained automated handcleansing system. These features, combined with an invigorating wash and the choice of a soap cleanser or an antimicrobial cleanser agent, are designed to motivate doctors, nurses and other health care workers to comply with guidelines for handwashing provided by the Centers for Disease Control and endorsed by most hospitals.

Houston Biomedical Inc. and Smith & Nephew Diagnostics, a producer of x-ray contrast media, have introduced Quick C to the United States market. Quick C is a high-performance concentrated suspension of liquid barium sulphate, 70% w/w – 150% w/w. It is specifically formulated to provide a reliable, totally reproducible coating of the colon for double contrast studies of the large bowel. It is provided in a

patented unit-dose laminated bag that will not tear or leak. The Quick C package contains everything required for dispensing the product.

Merck Sharp and Dohme has announced a new drug for the treatment of hypertension. Prinivil* (lisinopril/MSD) on clinical assessment is more suitable for the elderly hypertension patient. Prinivil is an angiotensin converting enzyme inhibitor that is especially adaptable to elderly hypertensives who often have concomitant diseases such as contracted intravascular volumes, impaired renal function and a diminished ability to metabolize and/or excrete drugs. Clinical trials with Prinivil show no significant alteration in heart rate and postural hypotension. Mean glomerular filtration rate was unchanged, and the incidence of side effects was low.

Pharmacy 1 Express, a drivethrough pharmacy, is now open in Bloomington, Ind. The founders of the business are now planning to franchise the enterprise. For quicker service, doctors and patients are encouraged to phone prescriptions in ahead of time. The pharmacy will offer only pharmaceuticals and selected

News of what is new in the medical supply industry is composed of abstracts from news releases. Each item published does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

over-the-counter drugs, including cough syrup and aspirin.

The Passy-Muir Tracheostomy Speaking Valve is now available for use in-line for ventilator dependent patients. The valve allows patients to speak during inspiration and expiration without interruption. The valve redirects the airflow in the oral and nasal chambers to evaporate secretions and reduces the amount of suctioning required. The valve has been used successfully for several years by pediatric and adult tracheostomized patients in longand short-term use.

Hewlett-Packard Co. has introduced an ultrasound-imaging system dedicated to the needs of obstetricians and gynecologists. The HP M1300A fetal/maternal imaging system, which performs linear, sector and transvaginal imaging, is designed specifically for assessment of the fetus and female reproductive systems.

Applied bioTechnology Inc. has introduced an AIDS research test to detect and analyze cells infected with human immunodeficiency virus (HIV-1). The test is the first non-radioactive test for AIDS that allows researchers to view and study HIV-infected cells.

Stackhouse Inc. has introduced a new face shield with a 62% larger protective area. The shield is designed to further protect clinicians from splatter, body fluids and patient blood that can carry life-threatening infection. Called the Anti-Contamination Face Shield, the new device affords optimum protection by covering the ears as well as the entire facial area.

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cme calendar

Methodist Hospital

Methodist Hospital in Indianapolis will sponsor the following events:

- Sept. 28-29- Practical Solutions to Quality in Primary Care, Hyatt Regency, Indianapolis.
- Oct. 4 Neonatal Resuscitation Instructor Workshop, Methodist Hospital Wile Hall, Indianapolis.
- Oct. 6-7 Advanced Cardiac Life Support, Methodist Hospital Wile Hall, Indianapolis.
- Oct. 11 Oral Surgery Seminar, Methodist Hospital, Indianapolis.
- Oct. 14 Trends in Total Hip Arthroplasty, Methodist Hospital, Indianapolis.
- Nov. 1 Practical Topics in the Care of the Elderly: Lester Bibler Day, Methodist Hospital Auditorium, Indianapolis.
- Nov. 2-3 Eighth Annual Pediatric Critical Care
 Symposium, Westin
 Hotel, Indianapolis.

For information, call Dixie Estridge, (317) 929-3733.

Indiana University

The Indiana University School of Medicine will sponsor the following courses:

- Sept. 21 Gastroenterology Update 1989, University Place Executive Conference Center and Hotel, Indianapolis.
- Sept. 20-23- Update in Cardiology: Cardiovascular Board Review, Indiana Convention Cen-

ter, 100 S. Capitol Ave., Indianapolis.

- Sept. 27 MATEC Clinical Series, Indiana University School of Medicine, Indianapolis
- Oct. 6 Surgical Oncology Conference, University Place Executive Conference Center and Hotel, Indianapolis.
- Oct. 6-8 Depression/Awareness, Recognition,
 Treatment Series,
 French Lick.
- Oct. 10-11 17th Annual Fall Symposium: Care of the Seriously Ill Child, University Place Executive Conference Center and Hotel, Indianapolis.
- Oct. 12 American Medical Student Association, Health Expo '89, University Place Executive Conference Center and Hotel, Indianapolis.
- Oct. 12-14 Robert A. Garrett
 Fall Visiting Professorship and Indiana
 State Urologic Meeting, University Place
 Executive Conference Center and
 Hotel, Indianapolis.
- Oct. 26 Breast Cancer Update, Reid Memorial Hospital, Richmond.
- Nov. 3 Disorders of Sleep/ Wake Cycle: The Dynamic Duel, Vigo County Public Library, Terre Haute.
- Nov. 9 Office Orthopaedics, University Place Executive Conference Center and

Hotel, Indianapolis. The Indiana University School of Dentistry will present "Recognition and Differential Diagnosis of Temporomandibular Joint Disorder" Sept. 29 at the University Place Executive Conference Center and Hotel in Indianapolis.

For more information, call Melody Dian, (317) 274-8353.

St. Vincent Hospital

St. Vincent Hospital in Indianapolis will sponsor the following courses:

- Sept. 22-23- Gynecology Handson Laser Course, St. Vincent Hospital, Indianapolis.
- Sept. 29 14th Annual Arthur B. Richter Lectureship in Clinical Cardiology, John W. Kirklim, M.D., lecturer, Indiana Roof Ballroom, Indianapo-

For information, call Marilyn Soltermann at (317) 871-3460.

Indiana Public Health

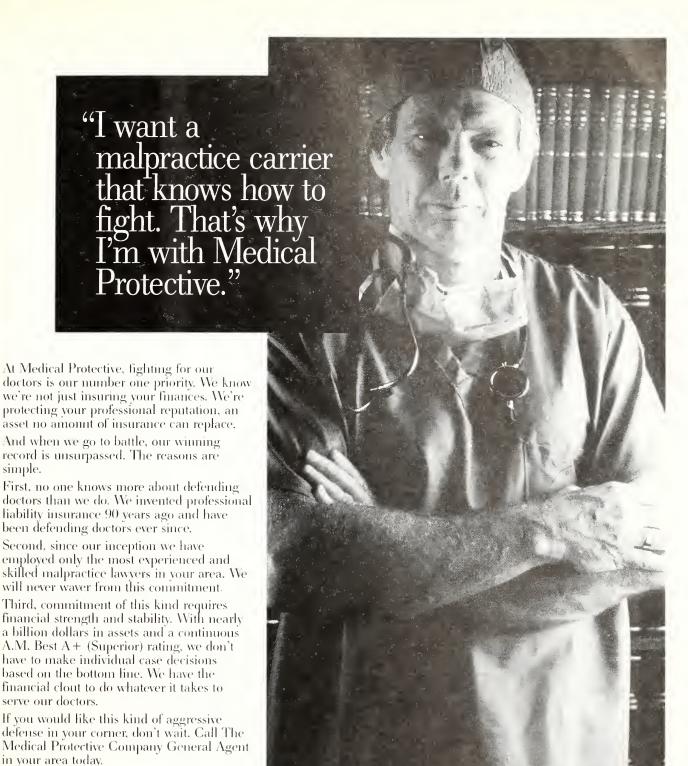
The Indiana Public Health Foundation, Inc., will sponsor the Ninth Annual Geriatrics Medicine Seminar on "Environmental Concepts to Assist Persons with Functional Impairments" Oct. 11 at the Radisson Hotel in Indianapolis.

Community Hospitals

Community Hospitals Indianapolis will sponsor the following course.

Oct. 13 - Third Annual Sleep-Wake Disorders Symposium, Marriott Hotel, 21st and Shadeland, Indianapolis.

For more information, call Carolyn Roeder, (317) 353-4269.



10:03

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Parenteral nutrition in infants and children:

A guide to proper management



Linda Bullock, Pharm. D. Joseph F. Fitzgerald, M.D. Indianapolis

ggressive nutritional support has contributed greatly to decreased morbidity and mortality in infants and children who could not otherwise maintain an adequate enteral intake. Parenteral nutrition (PN) generally is indicated when infants and children are unable to ingest adequate calories for normal growth and development and for the repair of wounds (e.g., surgical and burns). Specific indications for PN are listed in Table 1. PN solutions can be administered through a catheter threaded into a central or peripheral vein. Calorie needs, venous access, duration of therapy and potential complications are considered when selecting the route of delivery of PN to pediatric patients.

Total parenteral nutrition (TPN) is defined as the parenteral administration of carbohydrate, protein, fat, minerals, electrolytes, vitamins and trace elements in sufficient quantities to maintain growth and development. Peripheral parenteral nutrition (PPN) is the administration of the same components with a lower glucose

concentration via peripheral veins. Peripheral parenteral nutrition commonly is used to augment enteral feedings to achieve positive nitrogen balance. Central alimentation is reserved for those patients whose caloric needs exceed what could be provided by PPN and for those who need PN for an extended period of time, because the complications of central vein catheter placement are serious (*Table 2*), and the risk of infection is greater with central PN

This article reviews the components of proper PN fluids and emphasizes pediatric requirements and monitoring. An historical perspective is included to re-acquaint the clinician with the evolution of these products. Parenteral nutrition remains an evolving biotechnology; new deficiencies become apparent as we treat established ones.

Carbohydrates

Central venous alimentation allows the greatest flexibility in designing a nutritional support regimen. Dextrose is the most commonly used carbohydrate source in parenteral solutions. Hypertonic solutions containing up to 25% dextrose can be infused centrally with high concentrations

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The I.U. School of Medicine designates this CME activity for one credit hour in Category I of the Physician's Recognition Award of the American Medical Association.

To obtain Category I credit for this month's article, complete the quiz following this article.

Table 1

Indications for use of parenteral nutrition

- Loss of greater than 10% lean body weight with inability to regain this weight.
- Inflammatory bowel disease and intra-abdominal disorders (intractable diarrhea of infancy, Crohn's disease, ulcerative colitis, pancreatitis and peritonitis).
- Gastrointestinal disorders requiring surgery (gastroschisis, omphalocele, tracheo-esophageal fistula, intestinal atresias, malrotation, volvulus, Hirschsprung's disease with enterocolitis and necrotizing enterocolitis).
- Gastrointestinal fistulas.
- Hypermetabolic states (burns, trauma and low birth weight infants).
- Profound anorexia, nausea or vomiting (cancer, chemotherapy, radiation therapy, intracranial malignancy, renal failure, cardiac cachexia and hepatic failure).
- Severe, uncontrolled malabsorption and malnutrition.

of amino acids. Infants can receive more than 120 Kcal/kg/day with an infusion rate of 150 mL/kg/day and a 25% dextrose concentration.

The quantity of dextrose that is tolerated varies with each patient. Neonates have a decreased ability to metabolize glucose compared to older infants and children, with premature infants being the most glucose intolerant. Glucose intolerance is uncommon in nondiabetic infants and older children on TPN when a stepwise approach is used to initiate and advance the glucose concentration.

The dextrose concentration should be increased slowly by 2.5% to 5% per day to allow an appropriate response of endogenous insulin. Many patients are glucose intolerant immediately

after trauma or surgery due to high circulating levels of cortisol and glucagon.¹ Parenteral nutrition frequently is withheld during this period, or the dextrose concentration is decreased empirically, and the blood glucose levels are monitored closely.

Bacteremia should be suspected if glucosuria develops in a patient receiving TPN at a glucose concentration that has been previously tolerated. Subcutaneous or continuous intravenous insulin infusion has been used to control the hyperglycemia associated with dextrose infusion in very low birth weight infants. Some clinicians have reported no effect, and others have reported hypoglycemia with very low doses of insulin.^{2,3} We do not recommend using insulin in premature infants

on PN because of these highly variable responses. We do, however, add insulin to TPN solutions of infants and older children, when necessary. Insulin should be added to TPN solutions only after ingredients have been screened for compatibility. Insulin has been found to adsorb to both glass and polyvinyl chloride containers and to infusion equipment.4-6 Weber et al7 demonstrated that the availability of insulin from TPN solutions was dependent on the concentration of insulin in the solution, the other additives in the solution, the use of plastic bags or glass containers and the use of in-line filters.

Abrupt cessation of hypertonic dextrose infusions may lead to profound hypoglycemia, seizures and coma. A stepwise approach should be used in the weaning of TPN. One can gradually decrease the dextrose concentration, or the infusion rate can be reduced progressively.

Peripheral parenteral nutrition does not afford the flexibility of central venous alimentation. The usefulness of PPN is limited by the concentration of dextrose that can be infused into a peripheral

Table 2

Complications of central venous catheter placement

Pneumothorax
Hemothorax
Air embolism
Carotid artery injury
Subclavian artery injury
Thoracic duct injury
Catheter embolism
Catheter malposition
Brachial plexus injury

vein. Peripheral dextrose concentrations should not exceed 12.5%. The design of a PPN regimen must include the allocation of 150 to 250 nonprotein calories per gram of nitrogen for optimum protein utilization.8 This makes it impossible to supply adequate protein and nonprotein calories for linear growth of a pediatric patient with PPN using dextrose and amino acids alone. Infusing a PPN solution with a maximum dextrose concentration (12.5%) at 150 mL/kg/day supplies approximately 60 Kcal/kg/day. The availability of intravenous fat emulsion, which can be used safely with a PPN regimen to increase nonprotein calories, has made PPN a viable alternative in some patients.

Fat

Intravenous fat emulsions are available from several vegetable sources, such as safflower and sov. Up to 3 to 4 g/kg/day of intravenous fat emulsion can be added to PN regimens to supply an additional 30 to 40 Kcal/kg/ day. Besides providing an excellent source of concentrated calories (2 Kcal/mL for 20% fat emulsion and 1.1 Kcal/mL for 10%), fat must be provided to prevent essential fatty acid deficiency (EFAD). The required amount of essential fatty acid (linoleic acid) needed to prevent deficiency is about 4% of the total energy requirement. This can be met by providing 2 g/kg of intravenous fat infusion twice weekly9 or 0.5 to 1 g/kg/day. This is very important in neonates in whom biological EFAD has been seen as early as two days after the initiation of fat-free TPN.10 Untreated EFAD leads to growth failure, eczematoid skin lesions and anemia. If EFAD is suspected, a serum sample can be analyzed for triene (eicosatrienic acid): tetraene

(arachidonic acid) ratio. The ratio of triene:tetraene rises above 0.4:1 in EFAD.

Although it is necessary to prevent EFAD, the quantity of fat emulsion prescribed usually is dictated by the caloric needs of the patient and patient tolerance. Intravenous fat infusion should be initiated with a dose of 0.5 g/kg/

tion of a fat emulsion containing a higher concentration of linolenic acid. ¹¹ Reports of low concentrations of alpha tocopherol and high concentrations of less active isomers in soybean oil emulsions make a combined soybean and safflower oil emulsion an attractive alternative for the pediatric patient. ¹² This product, Liposyn

The American Academy of Pediatrics recommends that fat emulsions be administered at a rate not greater than 0.25 g/kg/h in low birth weight infants.

day. The dose can be advanced daily in increments of 0.5 g/kg/ day to a maximum of 3 to 4 g/ kg/day, if the serum triglyceride level is less than 150 mg/dL. If the serum triglyceride level is greater than 150 mL/dL, the fat emulsion is discontinued until the level returns to normal. The fat emulsion then can be restarted at the previously tolerated level with periodic monitoring of the serum triglyceride level. Serum turbidity should not be used as an index to increase or decrease the dose of IV fat emulsions.

Care must be taken when selecting an intravenous fat emulsion for pediatric patients. Soybean oil or a combination of soybean and safflower oil are the products that are available. These emulsions have varying amounts of linoleic and linolenic acid. The role of linolenic acid as an essential fatty acid in humans is not yet understood. Linolenic acid deficiency has been reported in a 6-year-old girl who was receiving safflower oil-base fat emulsion rich in linoleic acid but low in linolenic acid. The deficiency was manifest by neurologic abnormalities, which resolved following the administraIl* (Abbott Laboratories, North Chicago, Ill.) deserves further investigation to determine its usefulness in pediatric nutritional support regimens.

Intravenous fat emulsions should be infused slowly over 24 hours, if possible, to minimize hyperlipidemia.¹³ Premature infants have reduced fat infusion clearance rates that correlate with gestational age.14-16 Kao et al¹⁷ reported that continuous infusions of lipid at doses of 0.5 to 3 g/kg/ day were tolerated better by neonates younger than 32 weeks' gestational age than intermittent infusions. Infants older than 32 weeks' gestational age tolerated a continuous infusion better when the lipid dose was greater than 2 g/kg/day. The American Academy of Pediatrics recommends that fat emulsions be administered at a rate not greater than 0.25 g/ kg/h in low birth weight infants.18 Intralipid[™] has been approved by the U.S. Food and Drug Administration for admixing with various amino acid/dextrose solutions.

Protein

Protein requirements in infants and children have been the subject

of much debate. Johnson et al 19 found that infants infused with 4 to 5 g of protein/kg/day developed azotemia, hyperaminoaciduria, hyperaminoacidemia and hyperammonemia. These same infants tolerated 2 to 3 g of protein/kg/day. Other investigators have found increased serum concentrations of tyrosine and phenylalanine in infants given 4 to 5 g/kg/day of amino acids.²⁰ Protein requirements for parenteral nutrition generally are accepted to be in the range of 1.5 to 3 g/kg/day for infants and older children and 2 to 2.5 g/kg/day for premature infants.8 Seashore et all demonstrated that 2.5 g/kg/ day of protein was ample to achieve positive nitrogen balance and normal growth rates.

PN in infants and children should be initiated with 1.5 to 2 g/kg/day of protein and be advanced by 0.5 g/kg/day to a maximum of 3 g/kg/day. Specific pediatric amino acid products such as TrophAmine (Kendall McGaw, Irvine, Calif.) and Aminosyn-PF® (Abbott Laboratories, North Chicago, Ill.) currently are being reviewed. These crystalline amino acid (CAA) solutions were developed specifically for the pediatric patient. The goal of therapy with CAA solutions is to produce an amino acid pattern similar to that of a normal breastfed infant. The "adult" CAA so-

lutions have been shown to result in elevated plasma methionine, glycine and phenylalanine levels and low plasma levels of glutamic and aspartic acids, taurine, tyrosine and cysteine when compared to orally fed infants. The "pediatric" solutions contain increased amounts of certain amino acids and decreased amounts of others to compensate for these abnormalities. Taurine is included in all formulations because it is considered an essential amino acid in infants. These formulations also contain increased amounts of tyrosine and histidine and decreased amounts of phenylalanine, methionine and glycine. Glutamic and aspartic acids also are included in pediatric amino acid solutions. Clinical trials report promising results with these CAA formulations, especially in premature infants and neonates.21-23 Trophamine 6% has a low concentration of cysteine, and cysteine must be added to Aminosyn-PF when TPN solutions are compounded. Cysteine gradually is converted to cystine in solution.

Older patients with hepatic or renal disease are managed on an individual basis and should be monitored closely for signs of protein intolerance. Specific CAA solutions (HepatAmine*, NephrAmine*; Kendall McGaw, Irvine, Calif.) are available for these instances.

Table 3

Recommended daily requirements for electrolytes and minerals in pediatric parenteral nutrition

Sodium	2 to 5 mEq/kg/day
	2 to 5 mEq/kg/day
	2 to 5 mEq/kg/day
Calcium	1 to 2 mEq/kg/day
Phosphorus	1 to 2 mEq/kg/day
	0.25 to 0.5 mEq/kg/day

Electrolytes and minerals

Specific needs vary with each patient's clinical condition, renal function, state of hydration, cardiovascular status and concurrent medication administration. Our recommended daily provision of electrolytes and minerals in TPN solutions is illustrated in *Table 3*.

Sodium and chloride are necessary for osmotic regulation. The daily requirement of sodium may increase in the presence of glycosuria, increased enteric losses or diuretic therapy. Very low birth weight infants may have increased sodium requirements due to their inability to regulate sodium balance. 18,24 Excessive chloride administration should be avoided to prevent hyperchloremic metabolic acidosis. The number of milliequivalents of chloride added to a TPN solution should be adjusted to equal the number of milliequivalents of sodium added. The 1:1 ratio will help to avoid acid-base disturbances. Sodium can be administered in PN solutions as the chloride, acetate or lactate salt, depending on specific patient needs.

Although there are no specific patient requirements for lactate and acetate, their in vivo conversion to bicarbonate makes them an important tool in maintaining acid-base balance. Sodium bicarbonate generally is considered to be incompatible in PN solutions and, therefore, should never be used. Lactate should be avoided in the presence of severe liver disease, because it will not be converted properly and lactic acidosis may result. In general, excessive use of buffering components is discouraged, because this may mask an underlying acidosis.

Potassium is the major intracellular cation, and 75% of the total body potassium is found within the muscle mass. Serum potas-

sium concentrations should be measured before supplementation and monitored regularly to assure adequate potassium provision. Serum levels are influenced greatly by shifts in acid-base balance and are not always a true reflection of total body potassium stores. Because potassium is important in glucose uptake and glycogen synthesis by the cells, potassium needs must be met to maintain optimal synthesis. Potassium needs may increase with diarrhea or other gastrointestinal fluid losses, glycosuria, or with the use of drugs such as diuretics, amphotericin B and carbenicillin.25-21

Although potassium is necessary for anabolism, patients with renal failure may have elevated serum potassium levels before TPN is initiated. Daily potassium requirements should be assessed by monitoring serum potassium levels. Beware of falsely elevated potassium levels in infants when blood is obtained by heelstick, which may result in hemolyzed specimens.

Calcium and phosphorus are important for bone metabolism and mineralization in infants and children. Calcium also is necessary for neuromuscular transmission, muscular contraction and blood coagulation. Specific parenteral requirements for calcium in patients receiving TPN have not been established. Reports of metabolic bone disease associated with long-term TPN, of amino acidinduced hypercalciuria,^{28,29} and of TPN-induced rickets in infants have focused attention on the need to determine precise parenteral calcium requirements.³⁰⁻³³ The very low birth weight infant has the highest calcium requirement of all age groups, since the fetal skeleton acquires 80% of its calcium during the last trimester.34

Calcium can be added to TPN solutions as the gluconate or chloride salt. The gluconate salt usually is recommended because it is less likely to cause compatibility problems. Calcium chloride, on the other hand, dissociates readily in TPN solutions and can form precipitates at lower concentrations. Although it is more stable, compatibility problems occur with calcium gluconate when high doses of both calcium and phosphorus are administered in the same TPN solution. This problem can be avoided if one is administered in another intravenous solution or if the calcium and phosphorus are added to alternating TPN bottles. The latter option may not be advisable in very low birth weight premature infants who have frequent fluctuations in their serum calcium levels and have very high daily calcium requirements.

Hypophosphatemia is a wellknown consequence of nutritional repletion. Patients with normal serum phosphorus levels who are fed diets without phosphorus rapidly develop hypophosphatemia.35 Thompson and Hodges36 reported a 42% incidence of hypophosphatemia developing in 60 patients receiving a TPN solution containing phosphorus. All had normal serum phosphorus levels before nutritional repletion. Serum phosphorus levels should be drawn before initiation of TPN and at least twice weekly thereafter. Phosphorus is added to TPN in the form of the sodium or potassium salt. Either sodium phosphate (4 mEq Na+/mL and 3 mM phosphorus/ml) or potassium phosphate (4.4 mEq K+/mL and 3 mM phosphorus/mL) is ordered, depending on the electrolyte needs of the individual patient. Most amino acids and fat emulsions contain trace amounts of phosphorus. This usually is not significant in pediatric patients but should be considered if hyperphosphatemia becomes a problem, especially in the presence of renal impairment.

Magnesium is the second most abundant intracellular cation in the body. It is vital in glycolysis, oxidative phosphorylation and protein synthesis as a required cofactor in most phosphokinase reactions. Magnesium also plays a role in the depolarization of nerve and muscle tissue. Magnesium must be supplemented in patients receiving TPN.

The suggested daily allowance of magnesium is 0.25 to 0.5 mEq/ kg/day (*Table 3*). Magnesium requirements are decreased in renal disease and increased in conditions associated with excessive gastrointestinal losses such as diarrhea, fistula drainage or nasogastric suction. Ethanol and drugs such as diuretics, cisplatin and aminoglycoside antibiotics increase magnesium losses.37,38 Serum magnesium levels should be checked before initiating TPN and semiweekly for the duration of the PN regimen.

Vitamins

Vitamin requirements during TPN have not been well established. The oral Recommended Dietary Allowance (RDA) for vitamins is used as a guide for administering vitamins intravenously. Vitamins usually are added to TPN solutions as commercial multiple vitamin preparations. Until recently, parenteral vitamin requirements for infants and children were met by using multivitamin preparations formulated for adults. A new lypholized preparation, M.V.l. Pediatrie[®] (Armour Pharmaceutical,

Table 4

Most common trace elements supplemented in TPN with suggested daily intravenous intake for pediatric patients

Trace element	Physiologic functions	Deficiency signs	Daily dose
Zinc	Component of enzymes involved in metabolism of lipids, carbohydrates, proteins and nucleic acids	Growth failure, acroder- matitis enteropathica, de- layed wound healing, hair loss, diarrhea, sexual imma- turity, impaired taste acuity	100 - 300 u/kg
Copper	Component of numerous enzymes, some of which are necessary for proper iron mobilization, immune defenses, skeletal development and pigmentation	Anemia, leukopenia, neutropenia, bone disease, neurologic abnormalities	20 u/kg
Chromium	Maintenance of glucose metabolism, serves as a cofactor for insulin	Decreased glucose tolerance (hyperglycemia) secondary to insulin resistance	0.14 - 0.20 u/kg
Manganese	Part of several enzyme systems involved in protein and energy metabolism and in mucopolysaccharide formation	Impaired growth, skeletal abnormalities and abnormal reproductive function	2 - 10 u/kg

Kankakee, Ill.) has been designed to meet the specific needs of infants and children. M.V.I. Pediatric* differs significantly from adult formulations. The pediatric formulation contains vitamin K, additional vitamins D and E and less vitamin A than comparable adult formulations. There also are differing quantities of the water-soluble vitamins when compared to other intravenous multivitamin preparations. The pediatric dosing recommendation for M.V.I.

Pediatric* is 5 mL daily in infants weighing more than 3 kg and through 11 years of age. Infants weighing 1 to 3 kg should receive 3.3 mL daily or 65% of the daily pediatric dose. Infants weighing less than 1 kg should receive 1.5 mL daily or 30% of the daily pediatric dose.

Parenteral vitamin supplementation (i.e., in TPN solutions) is complicated by reports of decreased delivery of the fat-soluble vitamins to the patient because of

adsorption to the plastic TPN bags and tubing and/or light exposure. ^{39,40} Gillis et al⁴¹ reported that only 31% of the vitamin A, 68% of the vitamin D and 64% of the vitamin E that were added to TPN solutions were delivered to the patient during a 24-hour period. Riboflavin decomposition by photodegradation also can occur in TPN solutions. ⁴²

A multicenter study evaluated blood vitamin concentrations in infants and children who were administered intravenous M.V.I. Pediatric' at the dosage levels suggested by the Nutrition Advisory Group of the American Medical Association (AMA/NAG). The study found the recommended parenteral intake of water-soluble vitamins is more than necessary for most patients, especially for premature infants.⁴³

Green et al^{‡‡} on the other hand, found the AMA/NAG dosage recommendations for vitamins D and E maintained blood levels in a normal range during TPN administration, but that the vitamin A levels might be inadequate for premature infants. They suggested the inadequate vitamin A levels could be attributed to vitamin A adherence to the plastic bag and tubing and/or light deterioration.

Iron should be supplemented in full-term infants after 6 months of age, and sooner when there is evidence of iron deficiency anemia. Preterm infants are born with low iron stores and may need to be supplemented as early as 2 weeks after birth. Premature infants should maintain a vitamin E:polyunsaturated fatty acid ratio above 0.6 mg/gm during iron supplementation to prevent oxidative destruction of the erythrocyte lipid membrane and hemolysis.

The American Academy of Pediatrics recommends that 1 to 3 mg/kg/day of elemental iron be provided to children to prevent iron deficiency. Iron supplementation may be unnecessary in infants receiving frequent transfusions. Parenteral iron is available as the dextran salt. Iron dextran usually is not added to TPN solutions because of possible anaphylactic reactions, but it has been shown to be safe and effective for the treatment of iron deficiency

anemia in infants and children. 46,47 A test dose should be administered before adding iron dextranto TPN solutions. Care should be taken when providing iron in TPN solutions because excessive levels of iron have been found in home TPN patients who were receiving parenteral iron and blood transfusions. 48

Other trace elements must be added to TPN solutions to prevent deficiency states, especially in infants and children who are not receiving enteral supplementation (*Table 4*). The expert panel of the AMA/NAG has established daily parenteral requirements of zinc, copper, chromium and manganese. The AMA/NAG further suggests that children be administered trace elements from the outset of TPN therapy.⁴⁹

Dahlstrom et al⁵⁰ found decreased concentrations of trace

Larger doses of individual trace elements may be required in certain circumstances ...

elements in children, ages 4 to 65 months, who received TPN without trace elements for prolonged periods of time. This was true even when patients were receiving up to 70% of their total caloric intake by the enteral route. While no signs and symptoms of trace element deficiency were reported, this report does emphasize the importance of intravenous supplementation. This is particularly important in patients with short bowel syndrome, damaged intesti-

nal mucosa and motility disorders

Larger doses of individual trace elements may be required in certain circumstances (e.g., increased zinc requirement to replace losses accompanying high-volume diarrhea). Zinc and copper requirements may be increased in premature infants who lack body stores and, therefore, are at high risk for deficiencies.⁵⁰ Parenteral zinc and chromium may need to be decreased in patients with renal dysfunction whose renal regulatory systems may not prevent excessive accumulation.⁴⁹ Copper and manganese are excreted primarily by the biliary system; therefore, supplementation should be decreased in patients with obstructive jaundice.49 Zinc and copper levels should be measured before the initiation of TPN, and every two weeks thereafter. Dosage adjustments should be made accordingly.

Although other trace elements, such as selenium and molybdenum, may be essential, data do not allow us to generate recommendations for daily intravenous administration of these in TPN. We currently are not adding these trace elements to short-term TPN regimens, but we believe the serum levels should be monitored in long-term TPN patients and supplemented when necessary.

Total nutrient admixtures (Three-in-one solutions)

Intravenous fat emulsions were thought to be unstable when admixed with PN solutions before 1983. The fat emulsions were administered by piggyback infusion with the primary solution or provided as a separate peripheral infusion. Intralipid* was approved by the FDA for use in ad-

mixtures containing dextrose and certain brands of crystalline amino acids in 1983. Subsequent studies have demonstrated the stability of these solutions over time with varying nutrient, mineral and electrolyte ratios.⁵¹⁻⁵⁴ This system of nutrient delivery, called total nutrient admixture (TNA) or three-in-one, has certain advantages for pediatric patients. The small volumes of fat emulsion that are required for newborns can be infused over a 24-hour period, which improves lipid clearance. Patients with access problems can now receive fat emulsion with their TPN, which eliminates the need for a separate peripheral line or violation of the central line. We have found significant cost savings by using one "set up" of IV administration equipment and one infusion pump for the TNA system in our institution.⁵⁵ Nursing time also was decreased with a single infusion system.56

A potential disadvantage for TNAs is their perceived ability to promote microbial growth. IV fat emulsions are good media for bacterial and fungal growth;⁵⁷⁻⁶² TPN solutions do not support significant bacterial growth. 57,63-66 Microbial growth studies with TNAs have confirmed that they are safe when infusion is completed within 24 hours of compounding.67-69 The TNAs are less likely to promote microbial and fungal growth than an IV fat emulsion infused alone over an

extended period of time, which is often necessary in pediatric patients. Due to mean fat emulsion particle size, TNAs cannot be filtered through a final 0.22 micron bacteria-eliminating filter as recommended by the National Coordinating Committee on Large Volume Parenterals. The TNAs can be filtered, however, through a 1.2 micron air-eliminating filter that was found to completely remove candida and reduce Staplnylococcus and E. coli by 80% and 72%, respectively, from contaminated TNA solutions.68

Specific mixing guidelines and mixing sequences must be followed when preparing TNA solutions.70,71 Dextrose and electrolytes should never be added directly to the lipid emulsion. The addition of an acidic dextrose solution could alter the pH of the lipid emulsion, causing the emulsion to crack. Certain brands of crystalline amino acids are incompatible with fat emulsions. Specific manufacturer's information regarding admixture compatibility should be consulted before implementing a TNA program. There are maximum concentrations of electrolytes, minerals, vitamins and trace elements that can be added to the three-in-one solutions. The maximum concentrations of electrolytes, especially calcium and phosphorus, must not be exceeded because it is difficult to recognize precipitate formation in the opalescent TNA.

Plastic bags for use with TNAs

are available from various manufacturers. These bags are made of ethylvinyl acetate (EVA). Plastic bags containing diethylhexylphthalate should not be used, because this substance may be extracted by the lipid and present a

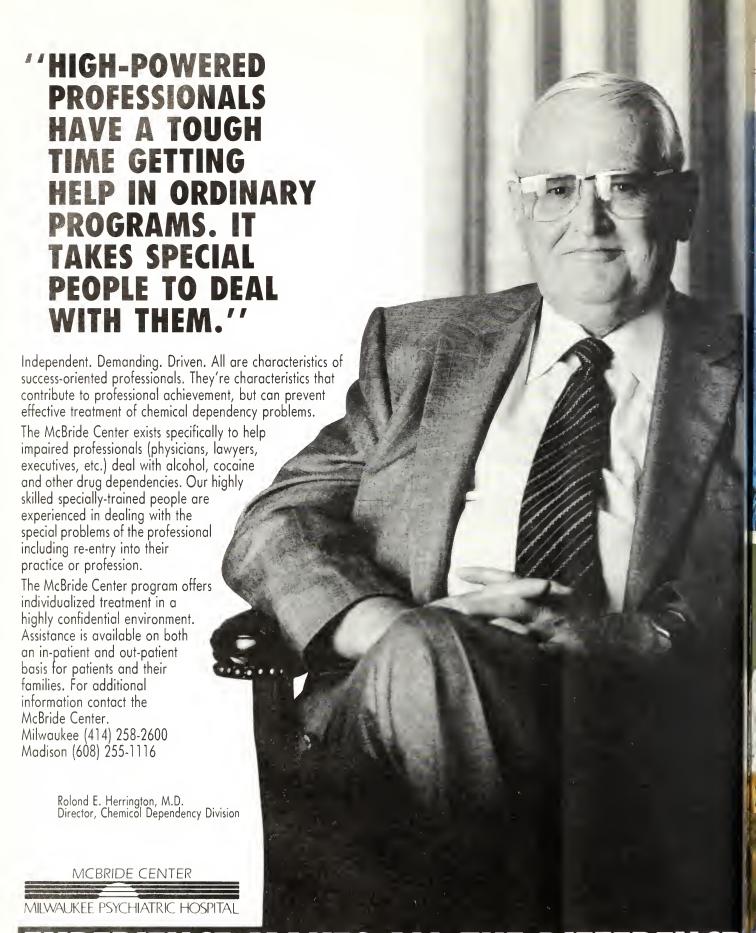
hazard to the patient.⁷¹

The field of parenteral nutrition has undergone considerable evolution in the past few decades. New products that are tailored for pediatric patients are being released. Various deficiency states have been recognized through the years and are being eliminated gradually by adequate supplementation. Increasing numbers of patients are receiving PN at home, spawning an entire industry.

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THE LOWER RESPIRATORY TRACT-

More vulnerable to infection in smokers and older adults



For respiratory tract infections due to susceptible strains of indicated organisms.

Summary. Consult the package literature for prescribing information

Indication: <u>Lower respiratory infections</u>, including pneumonia, caused by <u>Streptococcus pneumoniae</u>, <u>Haemophilus influenzae</u>, and <u>Streptococcus pyogenes (group A β -hemolytic streptococci)</u>. **Contraindication:** Known allergy to cephalosporins

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS: ALLERGENICITY POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS

Administer cautiously to allergic patients Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic associated colitis

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it
 Prolonged use may result in overgrowth of nonsusceptible
- Positive direct Coombs' tests have been reported during treatment with cephalosporins
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in.

moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made

- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates nother's milk. Exercise caution in prescribing for these patients Adverse Reactions: (percentage of patients)
 Therapy-related adverse reactions are uncommon. Those reported.

include

- Gastrointestinal (mostly diarrhea) 2.5%
 Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment
- Hypersensitivity reactions (including morbilliform eruptions. pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations. accompanied by arthritis/arthraigia, and frequently, fever) 15% usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

- · Cases of anaphylaxis have been reported, half of which have
- occurred in patients with a history of penicillin allergy

 As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely

 • Rarely, reversible hyperactivity, nervousness, insomnia, confusion,
- hypertonia, dizziness, and somnolence have been reported

 Other eosinophilia, 2%, genital pruritus or vaginitis, less than 1%
- and, rarely, thrombocytopenia

Abnormalities in laboratory results of uncertain etiology

Slight elevations in hepatic enzymes

- Transient fluctuations in leukocyte count (especially in infants and children)
- Abnormal urinalysis, elevations in BUN or serum creatinine
- Positive direct Coombs' test
 False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest* tablets but not with Tes-Tape* (glucose enzymatic test strip. Lilly).

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cme quiz

To obtain one hour of Category I CME credit, answer the following questions by circling the correct answer on the answer sheet below. Complete the application form and mail it to: Indiana University School of Medicine, CME Division, BR 156, 1226 W. Michigan St., Indianapolis, IN 46223.

Parenteral nutrition in infants and children: A guide to proper management

- 1. Sudden appearance of glucosuria in a patient receiving PN indicates that:
 - a. The PN should be discontinued

solution should be suspected

- b. Bacteremia may be present c. The dextrose concentration
- should be decreased by 10% d. Contamination of the PN
- 2. The maximum dextrose concentration that should be infused via a peripheral vein is:
 - a. 10%
 - b. 12.5%
 - c. 15%
 - d. 17.5%
- 3. Essential fatty acid deficiency can be prevented by administering: a. 4% of the total energy
 - requirement as IV fat
 - b. 2 g/kg of IV fat twice weekly c. 0.5 to 1 g/kg/day of IV fat

 - d. All of the above
- 4. Biochemical evidence of EFAD is demonstrated by a triene:tetraene
 - a. Less than 0.4:1

- b. Greater than 0.4:1
- c. Less than 4:1
- d. Greater than 4:1
- 5. The major complication of central parenteral nutrition is:
 - a. Pneumothorax
 - b. Sepsis
 - c. Air embolism
 - d. Metabolic abnormalities
- 6. M.V.I. Pediatric* should be administered:
 - a. To children younger than 12 vears old receiving TPN
 - b. Daily in TPN
 - c. In a decreased dose for infants weighing less than 3 kg
 - d. All of the above
- 7. TrophAmine and Aminosyn-PF* are crystalline amino acid solutions designed specifically for use in:
 - a. Pediatric patients
 - b. Patients with renal impairment
 - c. Patients with hepatic disease
 - d. Bone marrow transplant patients
- 8. Pediatric patients receiving TPN should have serum electrolytes

- monitored:
- a. Every other week
- b. Weekly
- c. Two times weekly
- d. Three times weekly
- 9. Intravenous fat emulsions can be infused:
 - a. As a separate peripheral infusion
 - b. As a piggyback infusion into a TPN solution
 - c. As a component of a total nutrient admixture
 - d. All of the above
- 10. Advantages of total nutrient admixtures compared to standard TPN solutions in pediatric patients include:
 - a. Decreased potential for microbial growth
 - b. Increased solubility of electrolytes and minerals
 - c. Ability to filter solutions through a 0.22 micron bacteria eliminating filter
 - d. The ability to infuse IV fats continuously to allow for better lipid clearance

Answer sheet for CME quiz

I wish to apply for one hour of Category I AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on this answer sheet. I understand my answer sheet will be graded confidentially, at no cost to me, and notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician Recognition Award of the American Medical Association. Talso understand that if I do not answer 80% of the questions correctly, I will not be advised of my score, but the answers will be published in the next issue of INDIANA MEDICINE.

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Identification number: (found above your name on mailing label) Signature

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Answers (circle one)

- 1. abcd
- 2. abcd 3. abcd
- 4. abcd 5. abcd
- 6. abed
- 7. abcd
- 8. abcd 9. abcd
- 10. abcd

Complications of open tibial fractures

F. Robert Brueckmann, M.D. Gavin J. Roberts, B.A. Indianapolis

A non-randomized, retrospective study of 96 open tibial shaft fractures in 93 patients examined the incidence of the three major complications outlined in the abstract. The purpose of this investigation was to review current treatment practice at Methodist Hospital in Indianapolis and to compare the results with other published studies of open tibial fractures. This study is particularly worthwhile because a variety of methods are used at Methodist Hospital in treating all types of open tibial fractures, whereas other centers emphasize the exclusive use of external fixation in all type III and some type II lesions. 1,2,3

Each fracture was classified according to the three types outlined by Gustilo and Anderson.4 Type I open fractures are clean wounds less than 1 cm long. Type II open fractures have lacerations longer than 1 cm and are without extensive soft tissue damage, flaps or avulsion. Type III open fractures have extensive soft tissue damage, laceration or loss. Special categories in this type include high-velocity gunshot wounds, farm injuries, vascular injury requiring repair and fractures older than eight hours. Open segmental fractures and

Abstract

Ninety-six open tibial shaft fractures in 93 patients were examined to determine the incidence of amputation, nonunion and infection in each of three types of open fractures. Amputation occurred in four patients, who had type III fractures. Nonunion developed in two of 20 type II fractures, and 16 of 59 patients with type III fractures did not result in amputation (three of 62 total type III open fractures resulted in immediate amputation). Infection occurred in one of the 20 type II open fractures and 14 of 59 type III fractures. The distribution of infection and nonunion in the three grades of open fractures proved to be statistically significant, whereas the occurrence of amputation did not.

traumatic amputations also are included in this type.

Materials and methods

Patients suitable for our study were identified initially through an office computer system using the current procedural terminology (CPT) coding system. Those patients whose codes corresponded to treatment by open reduction of both closed and open fractures were then screened.

Patients who were excluded from the study included: patients with closed fractures; patients who had initial fixation or follow-up elsewhere; patients who died as a result of multiple trauma; and patients who had inadequate records. This method of identification of cases for review significantly reduced the number of primary amputations included, because the majority of these patients would fall under other CPT classifications.

The three patients who underwent primary amputation were not included in computations regarding persistent infection and nonunion and were likewise excluded from percentage calculations of methods of initial fixation and wound closure.

Fourteen patients had type I fractures, 20 patients had type II, and 62 patients had type III. The average age of the patients was 29.9 years, ranging from 7 to 79 years. Seventy-six individuals were men, and 17 were women.

Every wound was debrided, and all patients received antibiotics as prophylaxis against infection. Most wounds (57%) were closed primarily, although most of these were partial closures. Wound ends were approximated with interrupted sutures, and areas were left open to allow sufficient drainage. Complete closure by direct suture or by allowing granulation to occur could

then be made following the final debridement procedure. Delayed primary closure was used for 14% of the wounds and secondary closure for 29%. Seventeen lesions were treated with skin grafts, 10 were allowed to close by secondary intention, and myocutaneous flaps were used in seven instances.

Nonunion was defined as clinical motion at the fracture site when manipulated with no radiographic evidence of bony union at a minimum of six months postinjury. Persistent infection was evidenced by chronic, purulent drainage from the fracture site and was treated by wound culturing and the appropriate antibiotic regimen.

Results: Complications by grade of fracture

Amputation – Four amputations occurred in patients in this series. All were type III open fractures. Two of the three primary amputations were performed immediately on admission to the emergency department, where the condition of the limbs was judged to be unsalvageable. The other case involving primary amputation followed admission by 10 days. In this patient, severed neurovascular structures were identified and tagged while attention was paid to more life-threatening injuries. Any attempt at salvage was decided against when the tagged ends of the nervous tissue became necrotic and appeared extremely nonviable.

The single case of secondary amputation was performed 292 days following a gunshot wound, which severed posterior and anterior tibial arteries and severely contused the posterior tibial nerve. Saphenous vein graft reanastamoses of the vascular struc-

tures were achieved and examination revealed "excellent capillary refilling and ... a good, palpable posterior tibial pulse" postoperatively.

Fracture reduction by Rush rod insertion subsequently was completed. Serial debridements were performed, and a myocutaneous flap was applied to obtain soft tissue coverage. The Rush rod was removed, and a Charnley external fixation device was fitted approximately 10 weeks later, at which time clinical signs of chronic infection were present. Cephalosporin, penicillin and aminoglycoside therapy failed to eliminate the deep wound infection with myositis and cellulitis. Culture demonstrated a mixed infection containing Pseudomonas aeruginosa and Staphylococcus epidermitis. A cast eventually was fitted, but sensation distal to the injury was never regained. After consultation with the patient, a below knee amputation was performed.

The distribution of cases of amputation shown in *Table 1* is not significant statistically (p > .05 using Chi-square test).

Nonunion – Nonunion occurred in 18 instances. Two of these were in type II fractures, with the remaining 16 occurring in type III wounds. Twelve nonunions were atrophic and six were hypertrophic. Rush pins were the initial method of fixation in six fractures, plates and screws in seven and external fixators in five. A combination of techniques typically was used to treat nonunion. Bone grafting was used in nine cases, followed by electrical stimulation in seven, internal fixation in five and intramedullary nails in two. In situations where the surgeon felt that union was impending but had not been achieved within six months' time, no additional methods apart from the initial fixation were used. Every fracture showing nonunion at six months eventually achieved bony union. The distribution of cases of nonunion in *Table 1* is significant statistically (p < .05).

Infection – Again, no type I fracture was affected with this type of complication. A single case of infection occurred in the 20 type II fractures. As expected, the highest incidence of infection was evi-

Table 1 Complication by grade of fracture

<u>Grade</u>	<u>Total</u>	Amputation*	Nonunion#	Infection#
I	14	0	0	0
H	20	0	2 (10%)	1 (5%)
III	59		16 (27.1%)	14 (23.7%)
	62	4 (6.5%)		
		p>.05	p<.05	p<.05

^{* =} Chi-square values computed using 96 fractures.

^{# =} Chi-square values computed using 93 fractures.

dent in type III fractures, occurring in 14 cases. Infection developed despite the prophylactic parenteral administration of cephalosporin given to all 93 patients, with penicillin being added when farm injuries presented (11 cases)

Treatment of infection was affected by wound specimen culturing to determine, where possible, the nature of the pathogens involved, followed by therapeutic antibiotic administration. In addition to the classes of antibiotics noted above, aminoglycosides were used in 15 cases, clindamycin in three and chloramphenicol in four. The distribution of cases involving infection in *Table 1* is significant statistically (p < .05).

Complications by method of fixation

A variety of methods is used to treat all types of open tibial fractures at Methodist Hospital, including type III injuries. For this reason, we followed the incidence of complication as it occurred, according to the principal method of initial fixation. "Conservative" measures include simple casting, casts with pins and traction. "Internal" methods include Rush pins, screws, plates with screws, cerclage and nails. "External" techniques denote the use of Hoffmann or modified Hoffmann frames. These results are listed in Tables 2, 3 and 4. Because of the small numbers in each category, statistical significance could not be established.

Discussion

Orthopedic surgeons faced with the prospect of treating open tibia fractures have a variety of methods at their disposal. Some investigators advocate a relatively strict protocol for fixation and wound

Table 2

Complication by method of initial fixation - Conservative

<u>Grade</u>	<u>Total</u>	Infected	Nonunion	<u>Amputation</u>
I	6	0	0	0
II	7	1 (14.3%)	0	0
III	17	2 (11.8%)	0	0

Table 3

Complication by method of initial fixation - Internal

<u>Grade</u>	<u>TotaI</u>	Infected	Nonunion	Amputation
I	8	0	0	0
П	12	0	1 (8.3%)	0
III	32	9 (28.1%)	13 (40.6%)	1 (3.1%)

Table 4

Complication by method of initial fixation – External

<u>Grade</u>	<u>Total</u>	Infected	Nonunion	<u>Amputation</u>
I	()	0	0	0
H	1	()	1 (100%)	0
III	10	3 (30%)	3 (30%)	0

treatment,^{1-3,5} depending on the degree of soft tissue injury involved. However, other groups prefer to individualize treatment, formulating a plan after considering additional factors, such as other injuries and the patient's functional expectations and anticipated cooperation.^{6,7} The philosophy at Methodist Hospital more closely approximates the latter.

Nevertheless, the basic principles generally accepted as guidelines for the treatment of any open fracture should always be followed. These include immediate, meticulous debridement of all devitalized soft tissue and bone, thorough irrigation with Bacitracin-containing sterile solution, repeated debridement as necessary, cephalosporin antibiotic prophylaxis and adequate soft tissue coverage, employing skin grafts or myocutaneous flaps where needed.

The results concerning complications relative to the type of frac-

ture suggest that "the severity of the initial injury is the most important factor in determining its prognosis.6,10" Other series certainly have shown that Gustilo's system of subclassification for type III injuries is also of significant prognostic value.3,6 We acknowledge that, because we did not subclassify our type III injuries according to this scheme, direct comparison of our results with such series may not be directly valid. Nonetheless, because of the retrospective nature of this investigation, assignment of each injury to one of the three subclasses of type III lesions could not comfortably be made, since the staff at this hospital did not use such a system in the period under study. A prospective study currently being designed will use this subclassification.

Reports of complications in series including only open tibia tractures that have been classified according to the system described here are few. Several studies have described only type III open tibia fractures,^{2,5,6,8} whereas others have grouped at least two out of three classifications together, used another system of classification or none at all, or have included the results of open fractures of the tibia with comprehensive studies of all open fractures. 1-4,7,9-13,15,16 Both the demonstrated value in keeping each type of fracture separate when considering complications and the relatively higher rate of complications in tibia/fibula fractures make a separate analysis of open tibia fractures worthwhile.

Infection has been the most common complication of open fractures and the one over which the surgeon can exert the greatest control.¹⁰ Our overall infection rate of 23.7% in type III injuries is comparable to studies reporting only internal or external methods. Chapman and Mahoney report a rate of 30% of early, chronic osteomyelitis in one type II and 11 type III open fractures fixed internally. Edwards et al found they were able to reduce the rate of infection in type III open fractures treated with external fixation from 21% in the first part of the series to 9% by completely removing all necrotic bone before wound coverage. 5

Infection was found in 28.1% of the internally fixed patients' type III fractures, and in 30% of those with type III fractures fixed externally. The fact that only 11.8% of our patients with type III fractures fixed conservatively developed infection reflects of the fact that only the least severe of the type III injuries tend to be treated in this manner. As others have noted, the lack of a control group in a comparison of this nature can make results misleading. Although 57% of all wounds received primary closure, which was complete only in type I frac-

tures, no cases of gas gangrene

occurred. A 10% overall incidence of nonunion in type II fractures, with a 27.1% occurrence in type III injuries, also falls within values reported elsewhere in the literature. Gustilo's results from a 1980 to 1984 prospective study report 17.5% nonunion in all type III fractures.2 Other groups report 0% to 100% in studies of only types II and/or subtypes of type III fractures. 5,6,8,11 Edwards et al. found the median time to union for 159 type III open tibia fractures was nine months, suggesting that a definition using clinical and radiographic evidence of incomplete bone healing at six months may not be suitable. Our series

certainly supports this suggestion, as several of our patients with nonunion defined in this way went on to union within three additional months with no further procedures undertaken.

Nonunion is not limited to the type III tibia fracture. Of the two cases of nonunion involving type II injuries, one was fixed internally and the other externally. Success (100% eventual union) using combinations of bone grafting, electrical stimulation, internal fixation and/or intramedullary nailing has been achieved. As with initial fracture treatment, care of nonunion also is individualized.

In summary, Gustilo's system of classification continues to be of significant prognostic value in predicting the incidence of complications in open tibial shaft fractures. This study shows that internal fixation methods can be of value in addition to external fixators for the treatment of even some of the most severe open tibial shaft fractures.

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drug names

Look-alike and sound-alike drug names

	ETHAMOLIN	ETHANOL		
Category: Brand name: Generic name: Dosage forms:	Sclerosing agent Ethamolin, Glaxo Ethanolamine oleate Injection	Trigeminal neuralgia various manufacturers Alcohol, dehydrated Injection (ampules)		
	NICARDIPINE	NIACINAMIDE		
Category:	Calcium channel blocking agent	Vitamin		
Brand name:	Cardene, Syntex	various manufacturers		
Generic name:	Nicardipine HCl	Nicotinamide		
Dosage forms:	Capsules	Tablets, injection		

Benjamin Teplitsky, R. Ph. Brooklyn, N.Y.

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Limb salvage in high-risk patients with multisegmental disease

Michael C. Dalsing, M.D. William P. Hoagland, M.D. Gary Becker, M.D. Robert W. Holden, M.D. Edward Cockerill, M.D. John L. Glover, M.D.

Percutaneous transluminal iliac angioplasty (PTIA) has been successful in dilating stenotic arteries. The technique does not require deep anesthesia or the opening of a major body cavity. In the high-risk patient, these factors can be the difference between an acceptable or unacceptable outcome. The addition of a distal surgical procedure then may aid in prolonged limb salvage, but only if this combination of interventions is sufficiently durable and safe.

This study evaluates the logic of a combined approach to limb salvage in high-risk patients.

Patients and methods

Inclusion criteria for this study required the presence of three patient conditions. The first criterion was the presence of limb-threatening ischemia demonstrated by rest pain, ulceration or gangrene of the lower extremity. The second criterion was multisegmental arterial disease

Abstract

Is percutaneous iliac angioplasty before distal bypass a logical limb salvage option in a high-risk patient?

A retrospective review of 113 iliac angioplasty procedures identified 10 patients in this situation. Angioplasty preceded femoropopliteal bypass (five), femorotibial bypass (three) and, in one case each, femorofemoral bypass or profundoplasty. There were no interventional deaths or complications. Ankle/brachial pressure index improvement followed intervention: 0.28 + 0.2 vs. 0.92 + 0.08, (p < 0.0005).

Limb salvage was 90% at one month, 80% at six months and 70% at one to three years by Life-Table analysis. Two patients with a patent bypass lost limbs from uncontrolled infection within two months. One patient required an amputation 311 days after the only failure of angioplasty and distal bypass. During this study period, 56% of the patients died.

This review supports an angioplasty/bypass combined intervention as a valuable treatment option in high-risk patients facing limb loss.

shown radiographically and hemodynamically, which included an iliac occlusive component. The final criterion was the presence of multiple medical problems, suggesting a high-risk patient. Having two or more of the following variables placed a patient in the high-risk category: > 50 pack per year history of cigarette smoking; diabetes; hypertension; 70 or more years old; and prior or present congestive heart failure or myocardial infarction.

One hundred and thirteen PTIA procedures performed from Janu-

ary 1980 to January 1985 were reviewed retrospectively for this study. Aortography with runoff views preceded angioplasty in each case. The iliac lesions were of a stenotic nature only and less than 5 cm in length. There were no occlusions. Double lumen balloon catheters (Gruntzig design) of either polyvinyl chloride (earliest cases), polyethylene or polyester (most recent cases) were used for dilatation.

Under local anesthesia, the catheters were inserted into the femoral artery in the groin and advanced over a guidewire under fluoroscopic control to the area of iliac stenosis. The balloons were inflated by hand-held syringes to pressures of four to 10 atmospheres with dilute contrast medium. Balloon diameter and length selection were determined by the angiographic appearance of diseased and normal arterial dimensions. Normally 6 mm or 8 mm diameter balloons were required.

Hemodynamic study of PTIA patients consisted of indwelling catheter pressure measurements from above and below the lesion (pull-through pressure), the thigh to brachial systolic pressure index (TBI), the groin waveform (mono-, bi- or triphasic category), the ankle to brachial systolic pressure index (ABI), and/or the thigh pulse volume recording (PVR).

The PVR was categorized into three groups: less than 5 mm; 5 mm to 15 mm; or greater than 15 mm in deflection. A one category advancement in the PVR and/or groin waveform indicated improvement. A TBI or ABI improvement of greater than 0.15 was considered significant. Pull-through pressures were considered normal if a gradient of less than 10 mmHg was present. Failure was documented by return to preintervention values.

Twenty-one patients underwent surgical reconstruction performed distal to a PTIA. This was done for claudication in 11 patients, and these patients were eliminated from further consideration based on the study criteria. Ten high-risk patients required PTIA, followed by a distal surgical reconstruction for limb salvage, and

comprise the patients analyzed in this review (*Table 1*). Five patients underwent an expanded polytetrafluoroethylene (e-PTFE) femoropopliteal bypass, and three patients underwent a femorotibial bypass (2 vein, I e-PTFE) for limb salvage. One each required a femorofemoral bypass or profundoplasty for salvage of a below-knee amputation (BKA). The surgical procedures were performed two to 505 days (median 10) following the angioplasty procedure.

Graft patency was determined by the lower extremity arterial Doppler study. The graft was considered patent only to the time of the last Doppler examination, after which time the graft was considered lost to follow-up or, in appropriate conditions, failed. If the ABI decreased to less than or

Table 1

Presenting symptoms and medical risk factors in patients meeting the criteria of this review.

Case	Symptoms				Risk Factors					
	Rest pain	Ulceration		Smoking	<u>Age</u>	DM	HTN	<u>CHF</u>	MI	
1			λ	X	67		X			
2		X		X	57	X	X		Χ	
3			X	X	53	X	X		Χ	
4			X	X	71	X		X		
5	X			X	73		X			
6	X			X	72	X	X			
7		X		X	83		Х			
8	Χ			X	59				X	
9	X			X	64	λ	X	X		
10		X		Χ	73		Х			
	DM = diabetes mellitus HTN = hypertension			CHF = congestive heart failure MI = myocardial infarction				,		

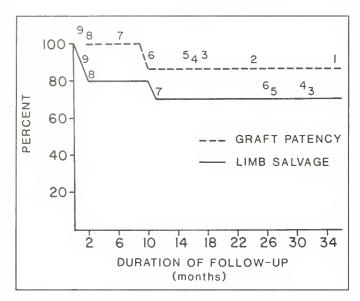


Figure 1: The Life-Table representation of graft patency and limb salvage in patients requiring a PTIA and surgical reconstruction for limb salvage.

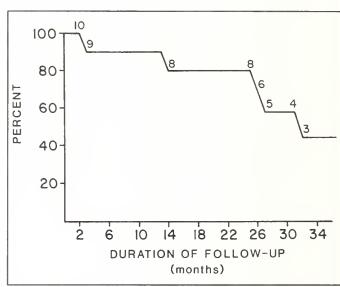


Figure 2: Patient survival in high-risk patients requiring a PTIA/surgical bypass for limb salvage depicted by the Life-Table method.

to within 0.15 of the preoperative ABI, the graft was considered failed. Limb salvage was determined by history and physical examination.

Results

Table 2 reviews the hemodynamic indications for and the results of iliac angioplasty. With the exception of case 5, at least one postangioplasty indicator demonstrated improvement, suggesting a beneficial effect of this intervention. In case 5, severe stenosis of the common femoral and profunda femoral artery still existed after PTIA. Following endarterectomy and patch angioplasty of these vessels, the TBI was greater than one, and the groin waveform and thigh PVRs were increased. The surgical bypass portion of this patient's operation is discussed later. The ABI was not improved significantly by the angioplasty alone

(0.28 + 0.2 vs. 0.42 + 0.12, p >0.05), as analyzed by the one-way analysis of variance (ANOVA, Hewlett Packard, HP-41C, Stat pac). Cases 1 and 6 were not considered in this comparison because the opposite leg is the ischemic limb in case 1, and the ABI was not available in case 6 due to rapid surgical intervention. The ABI of the ischemic limb in case 1 remained 0.0 following the contralateral PTIA. Pull-through pressures were not obtained in two cases early in our angioplasty experience, were still > 10 mmHg in two cases, but were essentially normal in six cases. There were no complications from PTIA in these 10 patients.

No operative deaths or complications occurred following surgical bypass in the 10 study patients. Surgical reconstruction was performed to salvage the opposite extremity in only one case (*Table 3*). In cases 1 and 6,

salvage of a below-knee amputation (BKA) was desired. In case 1, the groin waveform as well as the thigh and calf PVR measurements were increased, demonstrating the beneficial effect of the femorofemoral bypass graft. In case 6, only the groin waveform improved, and no distal vessels existed for further reconstruction. In all other cases, full limb salvage was the ultimate goal. In these cases, the ABI was improved significantly following surgical intervention (0.42 + 0.12 vs. 0.92 + 0.08)ANOVA, p < 0.0005).

One BKA (case 6) and one ischemic foot (case 4) were lost early because of uncontrolled infection. The only other amputation was an above-knee amputation (AKA) performed 311 days after an initially successful reconstruction (case 5). Both the angioplasty and surgical reconstruction had failed approximately one week earlier, shown by the

return of all hemodynamic Doppler readings to less than preintervention values. This is the only known case of late interventional failure in this group of patients.

Life-Table analysis of graft patency and limb salvage is depicted in *Figure 1*. Limb salvage was 70% at three years' follow-up with all amputations performed in the first year. The graft patency was 86% at three years; two limbs with patent grafts were lost early to infection as stated earlier. The patient survival was 44% at three years, illustrated by *Figure 2*. Most deaths were a result of myocardial failure.

Discussion

Previous investigators have opted for PTIA as inflow repair before the surgical correction of

distal disease.1-11 It is a common procedure and has been reported in 14.9% to 31.1% of some PTIA series.^{4,5,8} This technique was used in 18.5% of our patients requiring a PTIA. However, only a few reports specifically mention the group of patients requiring a combined PTIA/surgical approach.^{2,6,8,9,11} The data given do not determine clearly the length of patency or specific indications for operations in some reports.8,9 Seventeen patients from these studies remain with all variables clearly stated.^{2,6,11} Of these patients, no PTIA was thought to have failed, but four grafts did fail. No femorofemoral grafts failed. One profundoplasty was reported as a failure. The three femoropopliteal bypasses that failed were due to an embolus in one case, low flow

in a patient who died of a myocardial infarction and one indisputable graft thrombosis. In this last case, the PTIA was used as inflow for a second femoropopliteal bypass graft. If we combine Porter's data with our own, the three-year life table patency of the 12 femoropopliteal grafts is 71%.

Heyden et al observed a 64% limb salvage rate when surgical repair of both the iliac and more distal disease required repair. 12 When only the femoral, popliteal and/or tibial diseases required repair, the limb salvage rate was 57% to 75%, depending on the graft material used for reconstruction. 13 A limb salvage rate of 70% in this study seems acceptable in view of these reports and suggests that PTIA is not a limiting factor in the patency of grafts based on

Table 2

Results of interventional iliac angioplasty confirming the requirement for improved inflow and its success

			Pull-	Through			Wave			
	PTIA		Pressure		T	BI	Form	ABI		PVR
<u>Case</u>	Common	External	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Groin</u>	<u>Pre</u>	<u>Post</u>	Thigh
1	X				0.58	0.66	>	0.00	0.84	>
2	X		30	15	0.61	0.69	A	0.44	0.53	A
3		Χ		0	0.69	0.84	>	0.38	0.32	>
4	X			0	0.36	0.74	*	0.00	0.41	A
5		Χ			0.45	0.50	→	0.25	0.25	>
6		Χ	110	50	1.00		>	BK	(A	>
7		Χ	30	4	0.74	0.68	\rightarrow	0.00	0.35	A
8	Χ			7	1.00	1.14	A	0.50	0.54	•
9	X		40	4	0.82	1.11	A	0.47	0.59	>
10		X	15	0	0.59	0.71	•	0.19	0.38	,

such inflow repair.

The durability of the PTIA may be improved by distal reconstruction. Our findings are comparable with the results reported by Johnson et al of PTIA in patients with good outflow and better than the 43% three-year patency in those with poor runoff.14 The distal reconstruction may have converted a limited outflow track to an open system with improved PTIA patency. Some clinicians consider it imperative to bypass such distal obstructive disease.5 The present discussion may be analogous to a femorofemoral bypass graft. The concern for the femorofemoral graft was that the inflow iliac vessel would become stenotic and cause graft failures. This outcome has not been demonstrated in the literature. 15-18

Investigators have noted doubling of the flow in the donor common femoral artery after femorofemoral bypass grafts.¹⁷ Brief and associates believe the increased flow through the iliac vessel decreases the rate of atherosclerotic progression in this vessel.^{15,18} One can only postulate that a similar event favorably affects the PTIA vessel when a distal surgical graft is performed.

Kaufman and associates reviewed the clinical improvement following PTIA as evaluated by the ABI. If the ABI increased after the day of surgery (> 0.15), the clinical result often was good. If the ABI failed to increase, no clinical improvement was noted. Such a poor ABI improvement was seen only in patients with poor runoff. They concluded that

a "... lack of improvement indicates improvement is unlikely and further surgery or distal angioplasty is needed.4" Satiani arrived at a similar conclusion in studying aortobifemoral grafts if the ABI improved less than 0.1.19 Our patients fell within this poor category of ABI improvement and improved after distal bypass. Cases 4 and 10 involved patients with gangrene or ulcerations who required maximal blood flow for adequate and immediate healing, in spite of modest hemodynamic improvement. Overall, our results support the concept that a lack of ABI improvement after inflow repair should suggest the need for distal intervention for acceptable results.

A 44% survival is not surprising in this group of patients. It

Table 3

Results of surgical reconstruction following percutaneous transluminal iliac angioplasty

Case	Surgical Reconstruction	ABI	Documented Graft Patency Days	Limb Salvage Days	Mortality Days	
	F-F P F-P F-D	<u>Pre</u> <u>Post</u>		,	,	
1	X	0.00 BKA	158	940	940	
2	X	0.53 0.93	705	910	_	
3	X	0.32 0.89	1,031	1,236	_	
4	X	0.41 0.93	4	4 BKA	65	
5	X	0.25 1.06	300*	311 AKA	760	
6	X	BKA	54	54 AKA	399	
7	X	0.35 0.86	485	776	_	
8	X	0.54 0.85	452	802	802	
9	X	0.57 0.84	446	1,264	LTF**	
10	X	0.38 1.00	1,101	1,263	LTF**	

^{* =} occluded

^{** =} lost to follow-up

compares favorably with the 36% survival noted in similar patients who required axillopopliteal bypasses for limb salvage.²⁰ The severity of their atherosclerotic disease contributed to the expected outcome to limb and, ultimately, to life.

In conclusion, PTIA is a relatively safe and reliable inflow repair on which to base distal surgical reconstruction. This combination therapy has salvaged the limbs of 70% of our patients. Further evaluation of PTIA/surgical combination therapy for limb salvage in those select patients with appropriate multisegmental lesions seems warranted.

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Correction

The headline on the article about the Wolfram syndrome that appeared in the July issue of INDIANA MEDICINE, vol. 82, no. 7, page 548, was incomplete. The headline should be "Wolfram syndrome: A tribute to Don I. Wolfram, M.D."

Current diagnosis of acoustic tumors

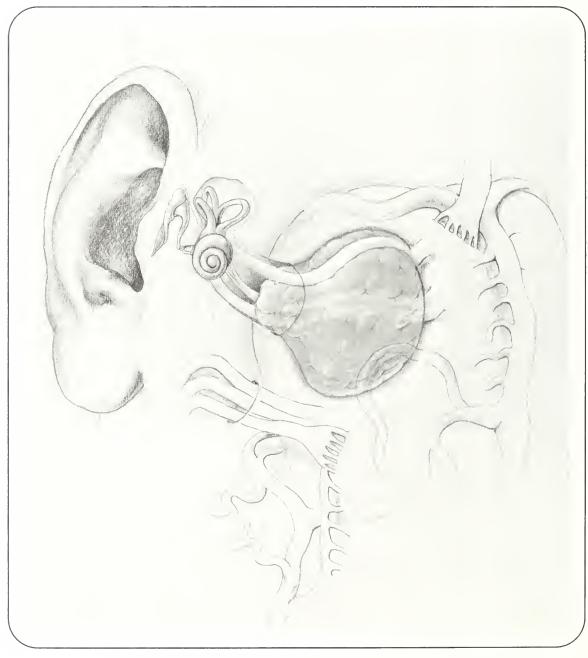


Illustration by Brenda Kester, Medical Media Productions, Methodist Hospital of Indiana.

Jerry L. House, M.D. L.B. Tubergen, M.D. Michael Burt, M.D. Indianapolis

The clinician frequently is presented with a diagnostic dilemma. What are the risk, discomfort and cost of diagnostic tests for an uncommon yet serious condition like an acoustic neurinoma? Optimal surgical results depend on early identification of small acoustic tumors.

Acoustic tumors comprise 5% to 10% of all intracranial neoplasms. ^{1,2} These benign, encapsulated tumors comprise 80% of cerebellar pontine angle neoplasms and are most common in middle-aged patients. The tumor arises from the Schwann cells of the vestibular branch of the eighth cranial nerve. Vestibular schwannoma or neurilemoma would be a better name.

The progressive clinical course of hearing loss, tinnitus and dysequilibrium to headache, ataxia and cranial nerve deficit was first described by Cushing 70 years ago.³ Progressive unilateral sensorineural hearing loss and tinnitus are the most common symptoms. The patient may tolerate the initial auditory symptoms and later experience headache, imbalance, vague dizziness or cranial nerve deficit.

The sensitivity of any test is its ability to detect a tumor when one is present, and the specificity of a test is its ability to exclude tumor when one is present. A good test for acoustic tumors would be both sensitive enough to not miss a tumor (false negative) yet specific enough to not generate abnormal results when disease is not present (false positive).

The most important step in the diagnostic decision-making proc-

Abstract

This article discusses the most direct and cost-effective means of diagnosing acoustic tumors. The sensitivity and specificity of current diagnostic tests are reviewed. Newer techniques, including magnetic resonance imaging (MRI), have changed the diagnosis of acoustic neurinomas. Our current recommendation is to do a screening auditory brainstem evoked response (ABR) if the neurotologic examination and audiometry indicate a possibility of tumor. If the audiogram and examination indicate a high probability of tumor, we may proceed directly to magnetic resonance scanning.

ess is the clinician. Let us first consider an ideal situation. When presented with a given symptom or symptoms, the clinician ideally would know the probability of a tumor's being present. Given the patient's history, physical examination and audiometric results, the precise probability of tumor would be known.

In this case, it would be easy to select either a screening test or a more direct diagnostic test. Unfortunately, the clinician has very little data to guide the decisionmaking process. Prior probability data or the chance that any patient with a given symptom has a tumor is not known for most presenting symptoms. For some symptoms, the probability is known. For example, with sudden idiopathic hearing loss syndrome, the probability of tumor is 0.008.4 If the probability of tumor were known for most symptoms and signs that a patient might have, the most appropriate test, either screening or definitive, could be selected.

Certain patients with cochleovestibular symptoms plus another regional sign are considered to be at relatively high risk for tumor. These include unilateral progressive sensorineural hearing loss and unilateral tinnitus. Patients with vertigo associated with uni-

lateral sensorineural hearing loss or objective dysequilibrium, signs of increased intracranial pressure, nystagmus, progressive facial weakness, diminished corneal reflex and lower cranial nerve abnormalities also probably are a relatively high-risk group.

Some patients would be considered in a lower-risk group for acoustic tumor. These include patients with stable sensorineural hearing loss, headache, unsteadiness, bilateral tinnitus, sudden unilateral loss of hearing, Bell's palsy, otalgia, facial pain and vague sensations of lightheadedness or giddiness. Some of these patients could have tumors other than acoustic tumors.

Diagnostic tests for acoustic tumors

Audiometric tests – Abnormalities in pure tone or speech audiograms are present in more than 95% of patients,⁵ and in our series 99% of patients with acoustic tumors. The high frequencies usually are diminished first, and there is a characteristic loss of speech discrimination.^{6,7} Acoustic reflex testing, done with a tympanometry unit, deserves special attention. It is rapid, objective, sensitive and available almost anywhere audiometric testing is done. Acoustic reflex abnormalities are

present in 85% of tumor patients.8 Acoustic reflex testing cannot be used in severe hearing losses, and there is some lack of specificity with 10% of non-tumor patients having absent reflexes in sensorineural hearing loss.

Auditory brainstem response (ABR) – This test also is called brainstem evoked electric response (BSER) or brainstem auditory evoked response (BAER). This is the most sensitive noninvasive, non-radiographic test for acoustic tumor. A series of click stimuli is presented to each ear, and scalp electrodes are used to record the response of the auditory nerve and brainstem nuclei.

Reviewing several reported series, we found the diagnostic sensitivity of ABR averages at least 95%, including small intracanalicular tumors. Our experience supports these data as well. We have seen only one patient with proven acoustic tumor with a normal ABR. There is an approximate 10% false-positive rate. If high frequency hearing is worse than 60 decibels on the pure tone testing, the reliability of ABR is greatly diminished.

Vestibular tests such as electronystagmography are playing a more limited role for diagnosis of acoustic tumor. In earlier tumor series when large tumors predominated, the accuracy was reported quite high. The sensitivity of vestibular tests decreases to 50% in small tumors. Although the vestibular test is still valuable in the diagnosis of the dizzy patient, there are more sensitive audiologic and radiographic tests for acoustic tumors.

Radiographic tests – Plain film radiography and polytomography of the temporal bone have been replaced by computed tomography (CT) scanning. Non-contrast

CT scanning may show bony erosion, but contrast enhancement usually is needed to visualize the tumor. Views of the internal auditory canal and posterior fossa should be obtained when CT is used. Fourth generation CT scanners with contrast enhancement have a very high sensitivity.

In one recently reported large series, contrast CT demonstrated 97% of tumors larger than 1.5 cm, but only 48% of tumors less than 1.5 cm. The combination of contrast CT and the auditory brainstem response identified 99% of all sizes of tumors.¹⁰ If other tests suggest acoustic tumor and the

Vestibular tests such as electronystagmography are playing a more limited role for diagnosis of acoustic tumor.

contrast CT is negative, air-CT cisternography to demonstrate the seventh and eighth cranial nerves within the internal auditory canal has a sensitivity of more than 99%, but rare false positives can

Magnetic resonance imaging (MRI) MRI seems to have several advantages over contrast CT for acoustic tumor diagnosis. The bone of the posterior fossa creates less artifact on MRI than on CT scanning. There is greater soft tissue enhancement and contrast. It is debated whether MRI alone is sufficient to replace air-CT cisternography when a small tumor is suspected. Our experience with

contrast enhancement and the new generation MRI scanners to date has proven that there is very rarely a need for air-CT cisternography. Small intra-canalicular tumors will visualize quite readily on high quality magnetic reso-

nance scanning.

We have seen no false negative magnetic resonance scans where a tumor was missed when both MRI and air-CT cisternography were done. This has been reported by other centers.11 We have seen two false positive magnetic resonance scans showing an intracanalicular tumor when none was present. The addition of intravascular paramagnetic contrast agents such as gadolinium-DTPA may further enhance the accuracy of MRI. Gadolinium-DTPA is now available, and it should be used when an acoustic tumor is suspected.

Conclusions

The clinician is still the most important part of the diagnostic evaluation. It is unfortunate that better data on the probability of tumor, given each presenting symptom, are not known. The decision to test or not to test a patient with significant auditory or vestibular symptoms is still the most important step in the deci-

sion-making process.

In deciding which diagnostic test to use, the clinician must decide first if the patient is in the high- or low-risk group for acoustic tumor. Pure tone and speech audiograms with acoustic reflex testing remain the best initial test. In lower risk patients, a screening ABR would seem appropriate after the initial history, physical examination and audiogram. We may discontinue the evaluation with a normal ABR in patients with enough high frequency hearing intact to make the ABR reliable. All abnormal ABRs are referred for either contrast CT scans or, preferably, magnetic resonance scans. If the MRI is negative, the evaluation is considered negative for acoustic tumor.

In high-risk patients with audiograms suggesting tumor, screening ABR could be done, but it may be just as effective to proceed directly to MRI. Some patients demonstrate dysequilibrium where peripheral causes have been excluded. Screening with an audiogram and ABR alone may not be adequate to exclude causes other than acoustic tumors.

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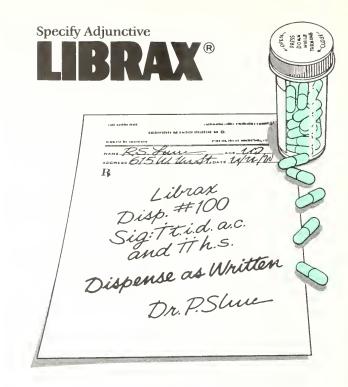
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Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlor-diazepoxide; more severe seen after excessive doses over extended periods, milder after taking continuously at therapeutic levels for several months. After extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

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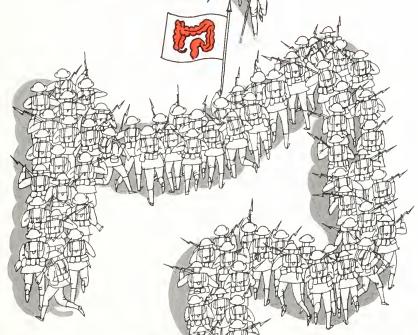


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Maternal mortality in Indiana:

A report of maternal deaths in 1987

William D. Ragan, M.D. Indianapolis

The following is the annual report of the Indiana Maternal Mortality Study Committee. In 1987, four maternal deaths occurred and Indiana recorded 78,449 live births. The 1987 state maternal mortality rate was 5.0 deaths per 100,000 births.

The committee met in open session at the Obstetrics-Gynecology Grand Rounds at Indiana University June 1, 1988. The committee reviewed its function and presented updated statistics. Three of the 1987 death summaries involving air embolism and toxemia of pregnancy were presented and discussed.

The committee adjourned to the Student Union for a closed discussion of the four 1987 deaths. Each case was presented for discussion, establishment of diagnosis and assignment regarding preventability and responsibility.

Case #780, March 30, 1987 – A 21-year-old, G2, PO, AB1. Post-partum. The cause of death was air embolism.

Case #781, April 10, 1987 – A 20-year-old, G1, PO. Intrauterine pregnancy 34 weeks gestation. The cause of death was toxemia of pregnancy, eclampsia, anuria and brain death.

Case #782, Aug. 29, 1987 – A 27-year-old, G3, P1, AB1. Intrauter-

ine pregnancy at 18 weeks gestation. The cause of death was air embolism.

Case #783, Sept. 21, 1987 – A 25-year-old, G1, PO. Intrauterine pregnancy at 31 weeks gestation. The cause of death was medical complication of pregnancy: brain tumor.

Maternal mortality still occurs. Although the numbers are small, the committee believes it is important to investigate and report these deaths for statistical and educational purposes. According to records, many of these deaths are preventable or have preventable factors. Undoubtedly, there are many "near misses."

According to recent articles on maternal mortality, there is a changing trend about causes of death.

No cases of ruptured ectopic pregnancy were recorded during 1985, 1986 or 1987. Early diagnosis of this condition is possible now with sensitive pregnancy tests, laparoscopy and ultrasound.

According to recent articles on maternal mortality, there is a changing trend about causes of death. The leading causes of hemorrhage, infection and toxemia have now been replaced by embolism and toxemia. In Indiana in 1987, two cases of air embolism and one case of toxemia were reported. Deaths due to thrombotic pulmonary embolism remain an enigma because early recognition and prevention can be difficult. Ten cases of air embolism have occurred in Indiana. These deaths often are related to oral genital sexual activity, and education of antepartum patients should be helpful. Deaths due to toxemia probably represent a low standard of prenatal care, which we hope will be improved in the

There is a continuing collaborative effort by the American College of Obstetricians and Gynecologists to summarize maternal deaths by states and districts. The U.S. Surgeon General has set a goal of no more than five maternal deaths per 100,000 live births by 1990. Maternal deaths in the white population already have achieved this goal. Maternal deaths in black and other populations approximate 18 maternal deaths per 100,000 live births.

The Centers for Disease Control recently have started to investigate maternal mortality in the United States. Combined efforts should provide more meaningful statistics to continue to curtail preventable maternal mortality.

William D. Ragan, M.D., is a professor in the Department of Obstetrics and Gynecology at the Indiana University Medical Center in Indianapolis and chairman of the Maternal Mortality Study Committee.

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Demystifying office computers.

Paul R. Honan, M.D. Lebanon, Ind.

"You can enjoy the many benefits of a medical office computer system without technical computer knowledge." – Paul R. Honan, M.D.

S everal recent articles have suggested that a thorough technical knowledge of computers is an essential prerequisite to making a successful office automation decision.

Many colleagues are evading a decision on office computers. They are denying their practices the numerous benefits of an office computer system because of an unfounded fear that their lack of an in-depth knowledge of computers would compromise their ability to make an informed decision. Had I not already been enjoying the benefits of a successful office management computer system for several years, I would have been tempted to have joined the ranks of the doctors suffering from computer phobia.

A mystique has developed around the use of computers. Some technically oriented computer enthusiasts suggest that a doctor buy a personal computer and spend a year learning about computers before considering the automation of his or her practice. Medicine in general has witnessed a technological explosion during the past 15 years. Fortunately, clinicians don't have to be Ph.D.'s or technical experts to pass on the improved patient care that has resulted from the use of computerized tomography, lasers, microsurgical equipment or ultrasound units. Most doctors do not take a

year to study about the intricacies of an MRI, that is, the physics of electromagnetic resonance.

The majority of doctors look at the results and the practical functions that are afforded when making an acquisition decision. The prudent buyer focuses on how well an instrument or a computer system meets clinical and administrative needs. The buyer also considers the experience of other clinicians and the track record of the company with which he is dealing.

Hospital administrators have been making multi-million dollar computer decisions for several years. Very few of them have technical knowledge about mainframe computer systems. Instead, they look at the functional requirements for the departments productivity of the physician and the staff. Properly designed and implemented systems from companies that specialize in this area free the physician and the staff from many mundane clerical duties. This allows them to spend more time on patient care and office management issues.

Some physicians enjoy personal involvement in the operation of the office computer system. Others enjoy all the fine features while the office staff operates the system. Depending on the physician's style of management and personnel, both methods can work effectively.

Several excellent medical office computer systems are available. It is important to select not only a system that will meet your needs, but to look at the vendors' track

A computer is simply an office tool that can enhance the productivity of the physician and the staff.

they want to automate. With the help of their staff, they evaluate the vendors' proposals from a business perspective. They also look at the viability of the solutions being offered and the vendors' ability to install and maintain their systems from an ongoing perspective. This process is similar to that being adopted by many medical office practitioners to achieve successful office automation decisions.

There is no great mystery to successful medical office automation. A computer is simply an office tool that can enhance the

records regarding ongoing support and service. Professional methods of installation and timely support are important qualities to look for in a computer company. Choose a company that writes and maintains the medical office programs rather than a sales organization that merely sells software packages.

If the company has authored the system, it can answer any question the physician or the staff may have about the intricacies of the program's operation, and software updates and improvements can be made to keep the software cur-

rent. The physician has greater security because he can talk directly to the source. Support is as close as the telephone.

Billing and insurance claims processing are the features that initially attract most physicians to computer systems. After the systems are in operation, many physicians find their accounts receivable drop by large amounts in a few months.

One office had been using an outside data processing firm for billing. After installing its inhouse office computer and doing its own billing, it uncovered and corrected many billing mistakes and delays. After considering the large fees previously paid to the data processing company and the big drop in accounts receivable, its new office computer system paid for itself in a few months. Efficient office billing also is a big office marketing tool in avoiding insults to patients for improper and untimely billing.

Medicare billing via electronic processing is becoming a necessity. Payments are more prompt. My computer system is linked with the G.T.E. Health Systems Incorporated. This allows me to submit claims electronically not only to Medicare but to approximately 40 other insurance companies.

Computerized office scheduling is one of the finest features. Had I known the advantages of the scheduling system, I would have installed the computer for that purpose only and enjoyed all the other features as bonuses. Although I am in solo practice, the computer could handle scheduling for more than 12 doctors.

Other advantages of automation include word processing, accounts payable, photoslide catalogue, inventory, time clock, electronic mail, questions and answers for patient usage in the waiting room, sending patient newsletters and phone link to outside data bases.

I have had data processing done by outside service bureaus for both payroll and accounts receivable and find our office can do it when we want it more efficiently and accurately, faster and less expensively. The doctor's office already has done most of the work of providing the needed information when using outside data processing companies. Inhouse payroll calculation with automatic check writing is only one of the convenient features of my computer system. It also generated quarterly tax reports and W-2 forms. Clerical time for each pay period in my office is only 20 to 30 minutes.

General ledger accounting is another significant benefit of a well-designed office computer system. An integrated office computer system with a general ledger can be properly set up with the advice of an accountant. The majority of general ledger entries are communicated automatically as a by-product of an integrated computer system in areas such as accounts receivable, accounts payable and payroll. Thus, the cost for accounting services is minimized, and the physician's accountant is free to deal with more important fiscal issues instead of making tedious journal entries. Hospital computer systems have used integrated general ledger packages for years to efficiently

maintain financial information.

Each member of our office staff uses the computer in his or her job. It is a natural part of the daily work schedule. My office personnel would not want to return to the old manual office system. All staff members are familiar with computer functions at different work stations. This versatility facilitates continuity of office operation when an employee is ill or on vacation. The computer vendor is available to provide training of new personnel if needed. New staff members usually learn operation of the system from experienced members. When the system was installed, efficient training by the vendor eased the anxiety of staff members in the transition from the manual to the automated sys-

Gone are the days when physicians need to suffer for months or even years the pains of learning to develop office automation programs. Professional programmers in concert with several physicians have designed and refined office information systems that comprehensively address the needs of today's medical practices. The result is that the physician can concentrate on implementing the solution that best meets the needs of the office and, thereby, can enjoy the many benefits of a medical office computer system without the need of technical computer knowledge. 🗓

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Physician dispensing:

A patient service under attack

Mike Abrams ISMA Interim Director of Government Relations

Legislation to restrict or prohibit the time-honored practice of physicians dispensing medication from their offices has been adopted in at least seven states and has been proposed in many more.

The type of restriction has varied from state to state. Some states restrict the practice to rural areas, some states allow physicians to dispense only in emergencies and some require physicians

intending to dispense prescription medication to demonstrate a need to the medical licensing board and receive permission from the board. Flor-

ida had a law requiring all physicians who dispense from their offices to complete six hours of continuing education each year, but the law has been repealed.

Indiana's legislative response

The freedom to dispense should not be taken for granted in Indiana. Legislation prohibiting physician dispensing has been introduced in the Indiana General Assembly in the past five legislative sessions. The bill introduced during the 1989 session (House Bill 1594) sought to prohibit physicians from dispensing legend drugs unless an emergency necessitated the dispensing of the drug,

in which case no more than a 48-hour supply of the drug could be dispensed. The bill died in the House Public Health Committee.

Federal legislation introduced

In case the states don't act with haste, organized pharmacy has found a friend in the U.S. Congress. Rep. Ron Wyden, D-Ore., has pursued federal legislation that would limit physician dispensing to emergency situations, rural areas or when patients would have substantial difficulty getting medication from a pharmacy. Although Rep. Wyden's bill has passed the House Energy

senting the FTC in a hearing on the bill, said, "Competition among physicians and pharmacists provides a strong incentive for members of both professions to offer the best combination of price, quality and service – best from their patient's perspectives." He said a ban on physician dispensing would promote only the private interests of druggists without helping consumers.

Like organized pharmacy across the country, the Indiana Pharmacists Association has put a high priority on securing passage of legislation to prohibit physician

dispensing.

The freedom to dispense should not be taken for granted in Indiana. Legislation prohibiting physician dispensing has been introduced in the Indiana General Assembly in the past five legislative sessions.

and Commerce Committee in past sessions, it has not reached the House or Senate floors.

In a guest column in the April 28, 1987, issue of *The Washington Post*, Rep. Wyden said, "Doctors may succumb to financial temptation by overprescribing or prescribing a drug they have in stock, whether or not it is the most appropriate treatment." He also said, "Physicians are not trained or regulated as pharmacists, and that can create real dangers when they dispense drugs."

The Federal Trade Commission (FTC) openly opposed Rep. Wyden's bill to prohibit physician dispensing. Daniel Oliver, repre-

Indiana law

The law in Indiana is clear. Indiana's medical practice act (Indiana Code 25-22.5-1-1.1) includes in the definition of the "practice of medicine" the following lan-

guage: "Holding oneself out to the public as being engaged in: A) the diagnosis, treatment, correction or prevention of any disease, ailment, defect, injury, infirmity, deformity, pain or other condition of human beings; B) the suggestion, recommendation or prescription or administration of any form of treatment, without limitation ..."

Consider the case of Roger Unzicker, M.D. Dr. Unzicker is a family practice physician with offices in Millersburg and Middlebury, two small northern Indiana communities. Although he does not sell pre-packaged medication, he purchases large quantities of

medications from wholesalers and dispenses to patients wishing to purchase from him. He explains, "A large part of my patient population is Amish, and Amish families are often very large. They bring in their children with, say, ear infections, and need amoxicillin. If I didn't sell it to them, they would have to hire a driver, at considerable cost, to take them to the nearest pharmacy, which is eight miles from Millersburg in Goshen."

Dr. Unzicker also observed that many of his elderly patients would have to find transportation to the pharmacy, which is something they might or might not do. "If they leave the office with the medication, we can be sure they'll take it, where they might delay getting a prescription filled."

Everett Bickers, M.D., has been repackaging and dispensing medications for 28 years. A general practice physician in Floyds Knobs, Dr. Bickers said, "My patients really like it; many request it. We always give them the option to go elsewhere. We routinely ask 'do you want to get your medicine here or do you want to go to the pharmacy?"

ISMA and AMA address issue

The American Medical Association and the Indiana State Medical Association have clearly stated their positions on the issue.

Thomas Neathamer, M.D., a family practice physician with a practice in Jeffersonville, introduced Resolution 87-18 at ISMA's House of Delegates in November 1987. The resolution, which was ultimately adopted by the full House, states in part:

"Whereas, physicians recognize the responsibility to comply with applicable rules and laws on the proper methods of dispensing medications from the office as part of their overall duty to ensure that the medical care rendered to that patient is of an optimal quality, therefore, be it resolved that the ISMA oppose any legislation or regulatory attempts that would deny the physician the legal and professional right to dispense medications from the office."

Dr. Neathamer explained when he practiced in Scottsburg, a small community about 25 miles north of Jeffersonville, he dispensed medications "as a convenience to my patients." After moving to Jeffersonville, however, he decided not to dispense. "My partner used to dispense when he practiced in Corydon, but he no longer dispenses."

Dr. Neathamer said he introduced the resolution "because any physician who wants to dispense should have the right to do so."

An AMA statement on the issue is equally clear: "The AMA strongly opposes federal legislation that would regulate physician dispensing. Physician dispensing is often essential to provide quality patient care. Moreover, the need for such federal legislation has not been established. Finally, such legislation would constitute an inappropriate intrusion into an area properly subject to state regulation and would ignore real differences in circumstances between states."

Dispensing in Indiana

As the issue of physician dispensing is pondered by Indiana pharmacists, physicians and legislators, it is important to have some understanding of dispensing practices. How much medication is being dispensed? Where and by whom is most medication dispensed? Some would have the

public believe that most primary care providers are operating virtual pharmacies from their offices.

In August 1988, to gain a better understanding of the dispensing practices of Hoosier physicians, the ISMA mailed surveys to a random list of members. Of those who responded, 363 were engaged in a primary care specialty. The results reported in this article consider only those respondents in primary care specialties.

The survey attempted to distinguish between the physician who repackages medication himself and then dispenses, such as Drs. Unzicker and Bickers, and the physician who contracts with a company that supplies prepackaged medications for the physi-

cian to dispense.

ISMA's survey indicated, at the 95% level of confidence, that the percentage of primary care physicians in Indiana selling prepackaged medication from the office is 11.8% (+/- 3.3%). Although the overwhelming majority of physicians surveyed indicate they do not dispense prepackaged medication from their offices, many who said they don't dispense staunchly defended the right of their peers who dispense to continue doing

One family practitioner's comment is indicative of many comments expressed on the survey: "While I don't dispense medication for a fee, I do not think physicians should be prohibited from doing so." A general practitioner wrote, "There is no greater way to be a patient advocate than to provide him/her with the appropriate medicine at the least possible cost."

The survey did not calculate the extent to which physician dispensing is an urban/rural phenomenon, but some of the com-

ments pointed to the fact that, in some areas of the state, the practice is more than a mere convenience to patients – it is a necessity: "Out here in rural areas, people have to drive 16 to 20 miles to get most prescriptions filled." In these areas some patients might wait, perhaps out of laziness or perhaps out of necessity, to get their prescription filled, until the condition worsens.

ISMA's survey also attempted to measure the extent of dispensing practices among those physicians who indicated that they sold prepackaged medication

With 95% confidence, 86% (+/-9.6%) of the physicians who dispense prepackaged medications sell to between one and 40 patients per week. Further, 42% (+/-13.68%) of the dispensing physicians sell to 10 or fewer patients per week. Most respondents said they write many more prescriptions than they fill.

According to the July 1987 issue

of *Indiana Pharmacist*, "Usually, of course, the physician has nothing to do with the drug dispensing. An untrained receptionist can dispense the drugs, and many times continues dispensing even when the physician is out of the office." *Indiana Pharmacist* does not indicate on what research its statement is based, if any, but the ISMA survey proves the statement to be false.

Survey participants were asked to indicate, by title, each person in the office authorized to dispense medications. Although "receptionist" was offered as one of seven choices, 97.58% (+/- 1.47%) of those responding ignored the choice.

Likewise, 97.83% (+/- 1.39%) ignored the choice "office manager." In the rare instances when a physician responded that such employees were permitted to dispense medication, the physician often explained that the employee could dispense "only under my supervision."

The future of physician dispensing in Indiana

It is difficult to predict how the issue of physician dispensing will fare as organized pharmacy continues to pressure federal and state policy makers for additional regulation of the practice. As the issue continues to develop, it is becoming increasingly important that physicians share their perspectives of the issue with legislators.

There is little doubt that when Indiana's lawmakers return in January 1990 legislation will be introduced to prohibit physician dispensing. Thousands of patients across the state will probably be completely unaware of the bill. If it should pass, however, the impact on the manner in which health care is delivered to them could be profound.

As Dr. Unzicker said, "It would simplify things if we didn't have to involve ourselves in this, but it is far outweighed by the benefit to the patients."

■letter to the editor

Today, I received the May copy of Indiana medicine. The new cover is excellent. Certainly improves appearance of the journal. I like the fitle Indiana medicine. Congratulations.

The TV coverage of the 500-mile race brought back many memories. I saw a picture of the track hospital – very fancy. The use of

helicopters has changed the activities at the track hospital. We had some great times in the days of Rogers Smith.

We have enjoyed life in the desert, but we miss our Hoosier friends. I have been involved on committees at Eisenhower Memorial Medical Center.

I am very proud of the new

Riley Hospital and all the other changes at I.U. I have been interested in Charles Bonsett's historical program.

With best wishes and congratulations for your continued excellent journal – INDIANA MEDICINE. – Ken Kohlstaedt, Palm Springs, Calif. J

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Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it, however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon * is indicated as a sympathicolytic and mydriatric. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug. 1.2 Also dizziness, headache, skin flushing reported when used orally. 1.3

Dosage and Administration: Experimental dosage reported in treatment of erectile impotence. 1,3,4 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks. 3

How Supplied: Oral tablets of Yocon * 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

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Rev. 1/85

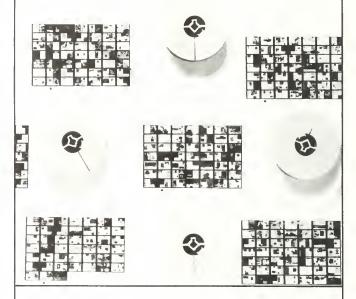


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Leroy Hood, M.D., receives Steven C. Beering Award_

Leroy E. Hood, Ph.D., M.D., is the recipient of the 1989 Steven C. Beering Award, presented annually by the Indiana University School of Medicine.

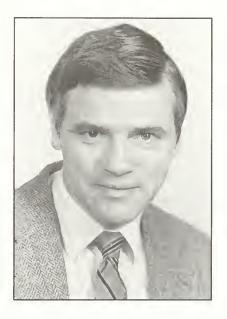
Dr. Hood will visit the Indiana University Medical Center Oct. 23-25 and give the annual Beering Lecture at 8:30 a.m. Oct. 25 at the University Place Executive Conference Center. The lecture is

open to the public.

The award recognizes Steven C. Beering, the president of Purdue University and the past dean of the Indiana University School of Medicine, for his contributions to the school and to medicine. It is awarded to an outstanding researcher who has made significant contributions to biomedical science.

Dr. Hood is the Bowles Professor of Biology, chairman of the Division of Biology and director of the Cancer Center at the California Institute of Technology. He was one of three molecular biologists to receive a Lasker Award in 1987 for his contributions toward understanding one of the enigmas of biology – namely, how the immune system can produce the nearly unlimited number of antibodies an individual needs to recognize harmful intruders during a lifetime. The Lasker Award is regarded as a prelude to the Nobel Prize.

Dr. Hood has attracted bright and inventive scientists in molecu-



Leroy E. Hood, M.D.

lar biology, microchemistry and engineering to his Caltech lab, where they have engaged in innovative research efforts, spewing forth diverse discoveries. In molecular biology, these have included the identification of the gene responsible for an inherited neurological disease in mice. When one of the two required copies of the gene responsible for healthy myelin sheath tissue is absent, the mice shiver uncontrollably and die young.

The scientists demonstrated their missing gene theory when mice produced by shiverer parents carried the missing copy of the gene that had been introduced into the egg through genetic surgery techniques. These progeny showed no signs of their parents' disease because of the group's success in placing cloned copies of the gene into the nucleus of mice eggs. Dr. Hood and his colleagues had succeeded in integrating the gene into the DNA of the developing mouse. For applications beyond shiverer mice, Dr. Hood has showed genetic surgery to be a powerful tool in the study of complex bio-structures such as nerves.

Dr. Hood and his colleagues also created the prototypes for machinery now used by all molecular biologists. At Indiana University, powerful DNA sequencing and synthesizing instruments have become an integral part of the research facilities in biochemistry and microbiology. They have significantly accelerated the identification and study of the genetic material that makes up the DNA found in every human cell. In cases of inherited illnesses and disorders, the genes responsible for the problem are being identified and synthesized for research.

The rapidly growing body of knowledge regarding human growth, aging, cancer and the inherited components of heart disease and arthritis demonstrate the profound impact of these engineering contributions.

editorial

Indiana's Year of the Child

Thomas J. Conway, M.D. Terre Haute

Children can be charming, attentive and appealing. Children can be noisy, intrusive and obstreperous. Children want to be noticed. And, suddenly, children in Indiana are being noticed – not just by their families, teachers and friends, but by that sometimes cynical group, the body politic.

Legislators and journalists have belatedly recognized the importance of this sizable group of disenfranchised citizens. We can expect a flurry of articles and legislation to emerge. We must hope that the problems of children are addressed in effective and lasting ways.

1989 is the Year of the Child in Indiana. Subsequent years must be similarly dedicated. Evidence abounds that in medical, educational and sociological matters Indiana children need help, as do their parents, mentors and guardians. Some help will come in mere awareness of the plight of children, with community enthusiasm directed toward assisting them. Confident, competent and respectful adults are unlikely to emerge from childhoods spent with unappreciative adults.

Where should we begin? Let's start with infant mortality and its corollary concerns – teenage pregnancy, prenatal care, prematurity, the assessment of childhood birth and development, sudden infant death syndrome and childhood injury control. The ISMA and the Indiana State Board of Health

along with other agencies and individuals, both public and private, have adopted programs directed at those problems. All physicians should be involved in those efforts.

The impetus for such efforts often has been received from Healthy Children, an organization that serves as a clearinghouse for community programs addressing child health problems. Phillip Porter, M.D., from his office at Harvard University's School of Public Health, has compiled data from many private and governmental approaches, each uniquely adapted to area needs.

Florida has legislation enabling counties to choose to form conservancy district funding for child health purposes. Sarasota, Fla., has developed a cooperative venture between governmental units and private physicians for medical care of needy children. Several other communities have used different approaches in attacking different problems important in their locales.

Dr. Porter recently was named chairman of a national advisory committee for the "Healthy Tomorrows Partnership for Children" program, which will allow the U.S. Department of Health and Human Services and the American Academy of Pediatrics to provide financial grants for selective innovative programs conceived to identify and solve health problems of any community's children.

Such impetus is important. It should not be ignored in Indiana, where a few citizens now carry

the load of health care education and provision for the children of needy or uninformed parents.

A present concern that inadequate nurturing may foster destructive behavior patterns in adolescence and adulthood allows an opportunity for realistic appraisal of child life in Indiana. Then each city, county or area can focus its attention and financial support on problems most counterproductive for its emerging citizenry.

Should Indiana follow Florida's lead and develop special taxing districts where current levels of funding for medical care of needy children are inadequate? Could those Indiana cities with pockets of population with limited access to health care copy the private/ public pediatric program adopted in Sarasota? Is there any place in Indiana where no youngsters are deprived of those preventive services that so well reduce infectious disease, physical and emotional injury and impairments of growth and development.

Indiana's Year of the Child is two-thirds over. We must not miss the chance to improve the lot of those so important to the future of our communities – our children. Analyze the problems of your pediatric patients. Then offer leadership and/or support to those already committed to improving the lot of all Indiana children – yours, mine and theirs.

Dr. Conway, a Terre Haute pediatrician, is the Vigo County Health Officer and a member of the editorial board of INDIANA MEDICINE.

guest editorial

Warning! May be injurious to your psyche

Joel W. Salon, M.D. Fort Wayne

Author's note: Although this editorial is not sacrilegious, it is irreverent. If this type of literature is offensive to you, please do not read it.

While recently perusing the new executive office at my hospital, I ran into Father Bill Nordenbrock. He is now a vice president with an appropriate staff under him. Father Bill gave an invocation at our annual Christmas party, which was both appropriate and ecumenical – offending neither Hindu, Moslem, Christian nor Jew – and did a credible job as judged by my untrained ear.

It occurred to me that we have not adequately expanded the role of quality patient care to departments other than those traditionally medical and surgical.

A recent newsletter from a south Fort Wayne hospital quoted the Joint Commission as saying quality patient care is "the degree to which the patient care services increase the probability of desired patient outcomes and reduce the probability of undesired outcomes, given the current state of knowledge."

Healing is now promoted by a team (without cheerleaders), which at times would suggest that the physician is a member but hardly the coach.

Pastoral care has grown from one hospital chaplain being supplemented by a patient's own religious leaders to a staff with computer printouts, electronically generated notes of caring and solace often dispensed by an individual whose only qualification would be that they "love their fellow men." Shouldn't one insist

in quality control in pastoral care in a manner similar to that which is being foisted on the physicians?

Inasmuch as Father Bill is now an administrator, one wonders how well he keeps up his skills. It has been suggested that a hospital not do coronary bypass surgery if it does less than 150 cases per year, the idea being that it is not done frequently enough to be done safely and skillfully. Let us suggest that the priest be required to pray publicly the same number of times so he remains skillful and by sheer numbers his message will have an impact.

Each religion has certain dogma that is required from its leaders. Therefore, it will be necessary to have one of the quality control personnel monitor each prayer to see that appropriate phrases are included. Requirements would dictate that the appropriate channels to God are used by those who reach him through a somewhat circuitous route, that dignity be preserved and that not only are requests made but appreciation be expressed for past blessings. Certain items would be mandatory, such as not praying to Jesus at the bed of a Moslem, being attired in appropriate vestments, documentation of the head being appropriately bowed and the use of kneeling when required.

Medicare and Medicaid deserve special attention. Inasmuch as all Medicaid patients have to be precertified before hospitalization, it is suggested that such clients (we used to call them patients) be auditorially isolated either with ear protectors or in a portion of the hospital where the loud speaker cannot be heard until preauthorization to accept prayer is made by the appropriate Medicaid administrator. Medicare

patients will be allowed prayer, provided it meets appropriate DRGs and current procedural terminology. The prayer must be four lines long or less; should it be longer, the priest may be required to remunerate the patient for the service or be subject to a \$2,000 fine.

Certain behaviors would call for immediate suspension, such as referral to the Holy Ghost as "to whom it may concern" or a baptism of a lewish child.

Of course, there will have to be a PRO (Pastoral Religious Overseer) organization to be the government's representative ensuring freedom of religion, separation of church and state and the avoidance of Godless society.

And, finally, outcome evaluation will be expected without reservation. A questionnaire must be sent to the patients to evaluate their ability to hear the prayer, to understand the prayer and to express their reactions, both positively and negatively, as to its quality and meaningfulness. Outcome evaluation definitely would be expressed as a percentage of the prayer's ability to "deliver the goods." Someone praying to live long enough to see a daughter married could be monitored, and the prayer could be placed in a computer and documented for perusal by statisticians.

Let peer review, quality control, documentation and accountability be for everyone, not just a method to spy on and harass doctors.

The preceding was approved by Father Bill Nordenbrock before submission for publication.

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cancer corner

William M. Dugan, Jr., M.D. Indianapolis

Craig R. Nichols, M.D., assistant professor of medicine at the Indiana University School of Medicine, hematology/oncology section, was awarded a \$15,000 grant from the Marion County Cancer Society. The grant is being used to develop an interactive computer-based teaching tool for cancer education.

This system will combine a computer program and laser-read video disk that work together to "show and tell" important cancerrelated skills, such as how a particular surgery is performed or how a lesion looks on x-ray. This technology is designed to improve the diagnostic skills of physicians, medical students and other health care professionals.

For a review of diagnostic possibilities or a refresher on cancer education, the disks can be updated and distributed to physicians soon after new information becomes available. A major part of this project is the gathering of information for the video disk, which can hold 50,000 to 60,000 frames of information. Information such as computed tomography scans, magnetic resonance imaging or mammograms are transferred to a laser disk.

Accompanying the video disk will be a computer diskette containing the text of typical case studies and current reference materials regarding diagnosis and management of the diseases.

For more information, contact the Marion County Cancer Society, (317) 925-5595.

Methodist Hospital of Indiana in Indianapolis recently became

affiliated with the Eastern Cooperative Oncology Group (ECOG) through the Indiana University Medical Center.

The ECOG is a large cooperative oncology group comprised of many university-based investigators throughout the nation. Private hospitals are granted access to ECOG protocols through affiliation with university-based medical centers.

Stephen Schultz, M.D., medical oncologist, is the principal investigator for the ECOG protocols at Methodist Hospital. However, patients may be entered into the studies by any other oncologist.

The Hoosier Oncology Group (HOG) has been identified as a cooperative oncology group by the National Institutes of Health's Office for Protection from Research Risks. The new distinction will entitle the HOG to receive investigational drugs directly from the National Cancer Institute for distribution to affiliate members.

The next HOG meeting will be Saturday, Oct. 7. Karen Antman, M.D., from the Dana Farber Cancer Institute will be the speaker. For more information, write the Hoosier Oncology Group, Walther Cancer Institute, 3202 N. Meridian St., Indianapolis, IN 46208, or call (317) 927-2115.

The National Cancer Institute (NCI) is conducting a survey to determine how many cancer patients are being denied life-extending treatment because insurers use loopholes to refuse coverage. Federal officials and doctors say the problem is nationwide.

The concern focuses on "off-label" use of drugs, says NCI's

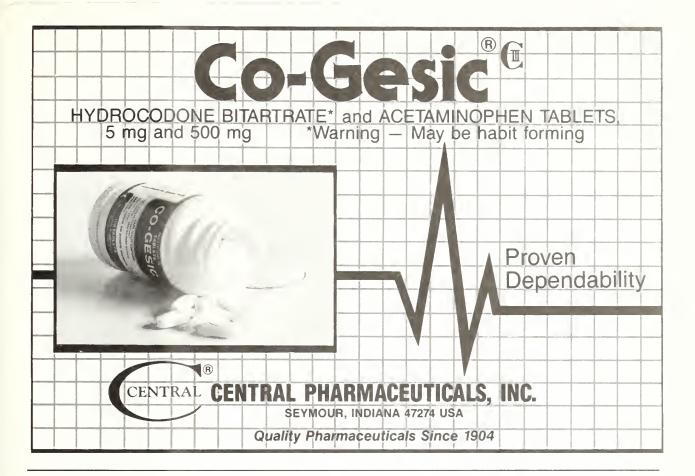
Michael Friedman, M.D. Although studies may show a drug extends survival for a certain cancer, insurers can deny coverage if the U.S. Food and Drug Administration hasn't approved it for that specific purpose.

Lee Mortenson, executive director of the Association of Community Cancer Centers, says 46% of cancer therapies involve off-label uses. He also believes the average oncologist spends four hours each week arguing with insurers for coverage of proven therapies.

Medicare in Indiana has started to look at the medical necessity indications for chemotherapeutic drugs. The Medicare administration has asked the Indiana Medical Oncology Society for input on the commonly acceptable indications for cisplatin, doxorubicin, etoposide, interferon, leucovorin and mitomycin.

Upcoming meetings – "Learn from the past ... Hope for the future" is the theme of the 14th annual Midwest Oncology Workshop for nurses, pharmacists and allied health professionals. The workshop, sponsored by the American Cancer Society, Marion County Unit, in cooperation with the University of Indianapolis, will be Friday, Oct. 13, at the Westin Hotel in downtown Indianapolis. For information, write the American Cancer Society, Medical Affairs Department, P.O. Box 78038, Indianapolis, IN 46268, or call (317) 879-4100. **J**

Correspondence: William M. Dugan Jr., M.D., Medical Director, Indiana Community Cancer Care, 11 S. Meridian St., Suite 711, Indianapolis, IN 46204.







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auxiliary report

Lura Stone ISMA Auxiliary president

Our daughter committed suicide when she was 22. She had suffered from depression, anorexia nervosa and bulimia for almost eight years. Her friends and classmates were accepted into medical school, getting married, obtaining good jobs and moving off campus. She was not accepted into medical school, had not completed her undergrad work, had not graduated and her world was too bleak. She slit her wrist."

"We have bailed our son out of jail five times now. He lost his driver's license for 10 years. He has not had a drink for a year now. We hope he can continue to live a sober life."

"My husband died of Alzheimer's disease. His fellow physicians could not stand to come by to see him. Their wives quit calling. My life is terribly lonely."

"My husband is being sued for a maloccurrence. The patient did not like the results of the medical procedure. The peer review board agreed that there was no negligence involved. It may take years to resolve the case. In the meantime, we live in constant apprehension and are on guard to try to avoid a similar situation."

"It is time to pay the fees for the next year of medical school. The baby has been sick and my wife has not been able to work since the delivery. I don't know how I am going to find the funds needed for the tuition."

Sad stories such as these are heard often these days, but sometimes a story ends this way:

"When my physician husband

was sued for malpractice a few years ago, we were in court from 9 a.m. to 5 p.m. My very good auxiliary friend met us at the door that evening with a meal all ready for us to eat."

Support for medical families experiencing stress is an auxiliary emphasis this year. I am encouraging ISMA Auxiliary members to consider five phases of support. The first two benefit medical students

Gifts to the AMA Education and Research Foundation (AMA-ERF) provide emergency funds to medical students, if the gift is sent to the Medical Student Assistance Fund. Grants enabling students to pursue special studies can be provided through the Medical School Excellence Fund. Each medical school dean uses the money provided by this fund as he or she determines most appropriate. Both the deans and the students appreciate these contributions.

A physician mentor program for medical students was started last year. Physicians and their families "adopt" a first-year medical student to entertain in their homes or accompany to an athletic or cultural event. The purpose is to allow the student to experience life in a physician's home and to have a physician friend throughout their medical education.

The third phase of support is a personal one. It consists of what each individual can do for another. I ask each person to be sensitive to the need for support among fellow medical families. You can show another that you are aware that they are experiencing stress. You are asked to do whatever seems most appropriate

at a given time. Physicians are invited to join auxiliary members in this effort.

The fourth phase involves county auxiliary activity. Through an informal discussion group, spouses offer support to each other. Topics may include raising doctor's children, maintaining their identity, problems with elderly parents and the changing role of the physician's spouse. These groups meet some of the emotional needs of members and help them get acquainted with each other. An Illinois group calls itself the SOS (Spouses Offering Support) Group.

The fifth phase would be a group that supports families with addiction problems. We hope that guidelines for organizing such a group will be developed this year. The auxiliary will work with the Physician Assistance Commission to address the problems involved with addiction in the family.

The ISMA Physician Assistance Commission and the auxiliary cosponsored a weekend retreat on stress management and relaxation Sept. 15-17 in Clarksville, Ind.

Drug and alcohol abuse or addiction, eating disorders, death, malpractice litigation and other problems are causing stress in medical families. We often believe we should be able to manage the problems and stress without the help of others because of medical training and the specialized education of our spouses. However, sharing the problems often lightens the load, lifts spirits and gives us strength to face the future.

Physicians of the ISMA, you are invited to join the auxiliary as we reach out to support each other.

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news briefs

Insomnia brochure available

The American Sleep Disorders Association has published a brochure titled "Insomnia" that is intended to increase the patient's awareness of insomnia.

The brochure offers information on self-help and when to see the family physician and includes definitions, diagnostic questions and treatment issues.

To obtain a free copy, write The Winona Memorial Hospital Sleep/Wake Disorders Center, 3232 N. Meridian St., Indianapolis, IN 46208, or call (317) 927-2100.

Interstitial cystitis is focus

"What is Interstitial Cystitis?" will be discussed at the meeting of the Section on Urology during the annual ISMA convention. The meeting will be from 8:30 a.m. to noon Saturday, Oct. 28, at the Westin Hotel in Indianapolis.

Speakers will include Brian Copley, M.D., chairman of the Medical Advisory Board, National Kidney Foundation of Indiana; Phillip G. Mosbaugh, M.D., and William E. Chapman, M.D., urologists; and Jody Krieger and Jody Obear, R.N., representing the Indiana chapter of the Interstitial Cystitis Association. Patients with the disease also will speak.

Interstitial cystitis is a chronic inflammation of the bladder that primarily affects women. The result is a painful, irritable bladder and very frequent urination. Interstitial cystitis is a lifelong disease with no known cure.

Approximately 250 people in

Indiana suffer from interstitial cystitis. Indiana has a state chapter of the National Interstitial Cystitis Association and three support groups. The Indiana legislature passed a resolution urging the U.S. Congress to appropriate funds for interstitial cystitis research and public education.

For more information, write the Interstitial Cystitis Association, P.O. Box 1553, Madison Square Station, New York, NY 10159.

Fungal infections discussed

Treatment of immunocompromised patients who acquire a fungal infection was discussed at a recent discussion hosted by the Cornell University Medical Center. Such infections are difficult to diagnose early, and, as is the case with AIDS patients, patients with faulty immune systems must be treated vigorously with antibiotics.

The Cornell conference participants concluded that fluconazole and itraconazole are suitable agents for the purpose.

Cassette gives health tips

Doctor/Patient Intercom is the title of a new, one-hour, medical news magazine available on audio cassette. The cassette is designed to provide the patient with health care information in non-technical, easy-to-understand language.

The July cassette covers chronic fatigue syndrome.

A one-year subscription, beginning with the July issue, is \$49.80. For information, write *Doctor*/

Patient Intercom, 1577 E. Chevy Chase Dr., Glendale, CA 91206 or call 1-800-423-2308.

Referral service offered

The Brown Schools National Information & Referral Service in Austin, Texas, enables mental health professionals to find treatment facilities for difficult-to-treat patients.

The full-service data clearing-house, designed to serve the medical profession, has access to information on more than 2,000 psychiatric and rehabilitation facilities in the United States. Facilities in the database must meet selection criteria to participate. The information is provided at no charge.

The toll-free number is 1-800-531-5305.

Managed care digest updated

Marion Laboratories has published a combined update of its earlier HMO and PPO editions of the Marion Managed Care Digest.

It features new statistical and financial information on both HMOs and PPOs, including a list of the 40 largest preferred provider organizations as of Sept. 1, 1988. Those 40 PPOs increased enrollment by 27% between the end of 1987 and the middle of 1988. The book also analyzes the financial characteristics of the HMO industry.

For information, write Marion Laboratories, 9300 Ward Parkway, Kansas City, MO 64114.

J

■the human side

Body language

Arthur R. Pell, Ph.D. Consultant, Dale Carnegie & Ass.

All of us convey information with more than the words we use. What we say is often modified by the way we use our body. Our facial expressions, our gestures, the way we sit or stand all convey meaning. Wouldn't it be great if we could buy a dictionary of body language so that we could look up what each gesture or expression means? Then we could interpret what everybody is really saying.

Some people have tried to write such "dictionaries." They list a variety of different "signals" and identify their meaning. For example, the other person strokes his chin. What can this mean? "Ha! I know. He's pondering about the situation." Indeed, he may very well be thinking it over, but it might also mean that he didn't shave this morning and his chin itches.

The person across from you is sitting with her arms folded in front of her. Some "experts" interpret this to mean that she is holding herself in, blocking you out, rejecting you. Nonsense! Look at a roomful of people at a class, a lecture, a theatrical performance. You will note that a good number of these people are sitting with arms crossed. Does that mean that they are rejecting the instructor or actors? Of course not. It's a comfortable way to sit, and if you are cold, it keeps you warm. On the other hand, if in the middle of a conversation, the other party should suddenly cross her arms, it might mean that at that point she is disagreeing with you.

There Is No Universal Body Language

This does not mean that one cannot read body language. What it does indicate is that there is no universal body language. Each of us has his or her own way of expressing ideas, feelings and nuances nonverbally. Why should this be? Body language is an acquired trait. We tend to imitate other people. It starts with our parents and often is closely tied in with our ethnic background. Two boys are born in Detroit, Michigan, but their parents emigrated to the United States from two different countries. One family came from a country where the usual way to express oneself was with gesticulation. You could not speak the language without using your hands. The other family came from a country where nobody gesticulated except when highly emotional. The two boys met for the first time in high school. The first boy was discussing a situation in his usual way — his hands moving wildly. The second boy thought: "My goodness, he's excited about this." Then he responded in his usual quiet way and the first boy thought, "He's not even interested."

Cultural and Family Influences

Cultural differences also affect the way one uses non-verbal communication. Following the theft of money from a high school cafeteria in New York City, the principal interviewed all of the students who had access to the cash register. After the interviews he determined that the thief was a Latin-American girl and he suspended her. A social worker visited the principal about

this case and asked why he felt she was the thief. He responded: "All the other students looked me straight in the eye and said that they didn't do it. This girl wouldn't look me in the eye. She looked down at her toes throughout the interview. She's obviously guilty." The social worker said, "Mr. Principal, a well bred Latin American girl is taught never to look straight into the face of such an exalted personage as a principal, but to look demurely to the ground when talking to him." The cultural difference generated the body language and was misinterpreted by the principal.

A similar pattern may be determined by family habits. When anybody speaks to a member of Esther's family, they will be rewarded with frequent nods of the head. Most of us would interpret this to mean that they were agreeing with us. But as Esther pointed out when questioned about this, all it meant to them was that they acknowledged that they heard what was being said.

Study Each Person's Use of Non-Verbal Clues

If body language is an improtant aspect of communication, is there any way that we can learn to read it? There is no one hundrend percent approach to reading body language. The only way to obtain a reasonably good interpretation of a person's non-verbal actions and reactions is to know the person with whom you are communicating. When you deal with the same people over and over again, by careful observation you can learn to read each person's body language. You note that when Claudia agrees with you, she tends to lean forward and when Paul agrees he tilts his head to the right. You observe that Esther nods no matter what you say, but when she is not sure of something, she has a puzzled look on her face even though she is nodding.

By making careful mental notes about each of the people with whom you communicate, you will be able to understand their non-verbal clues and interpret them properly. After a while, you may note thet some gestures or expressions are more common among the people you communicate with than others. From these you may make some generalizations when dealing with new people, but you must be careful not to put too much credence in those interpretations until you have had more experience with these people.

When the body language seems to contradict or skew the meaning of the words being spoken, or you are not sure what the signal being sent really means, ask a question. Get the person to communicate verbally what is really meant. By good questioning, you can overcome the doubts that the non-verbal actions induced and be able to deal with them.

Pocket/purse size reprints may be purchased (10 for \$10.00) or (25 for \$20.00) from Dale Carnegie & Associates, Inc. 1475 Franklin Avenue, Garden City, NY 11530

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people

Dr. Hans R. Wilbrandt was recently on the faculty of a course on "Cataract Surgery in the 1990s," which was held in St. Louis, Mo.; the topic of his lecture was "Advanced Phaco Intercapsular Technique."

Dr. Ronald G. Blankenbaker, vice-president for medical affairs at St. Vincent Hospital and Health Care Center in Indianapolis, has been elected to a three-year term on the board of trustees of the Catholic Health Association of the United States.

Dr. Isaac John, Fort Wayne, was elected to fellowship in the American Academy of Pediatrics.

Dr. Hamlin B. Lindsay, a Washington surgeon, donated his medical building to the Vincennes University Foundation; sale of the building resulted in a \$40,000 donation to the foundation.

Dr. Steven F. Isenberg, an Indianapolis otolaryngologist, received the Physician of the Year Award from the house staff of the Family Practice Program of Community Hospital of Indianapolis.

Dr. Jay L. Grosfeld, professor and chairman of the Department of Surgery, Indiana University School of Medicine, was elected a director of the American Board of Surgery.

Dr. Thomas L. McConnell was elected chairman of the Department of Psychiatry at Ball Memorial Hospital in Muncie.

Dr. James E. Hull, a Lafayette general surgeon, attended the annual meeting of the American Society of Colon and Rectal Surgeons in Toronto, Canada.

Dr. John D. Slack of Carmel was elected president of the Marion County Division of the American Heart Association.

Dr. Thomas J. Fountaine, a Bedford family practitioner, received the Cecil Mills Pillar of the Community Award for his service to the community.

Dr. Terry W. Marsh, a Muncie dermatologist, spoke about the effects of the sun on skin at a program sponsored by the Randolph County unit of the American Cancer Society.

Dr. Robert M. Seibel, a Nashville family practitioner, spoke about his 40-year career in medicine during a program at the Brown County Historical Society building.

Dr. William N. Horst, a retired Crown Point family practitioner, was named Crown Point Man of the Year.

Dr. John R. Dragoo, an Urbana family practitioner, retired July 1; he was honored at a party sponsored by the Urbana Lions Club.

Dr. Philip Ball, Muncie, was honored at a party upon his retirement from the practice of internal medicine.

Dr. Robert F. Cottrell, a Fort Wayne anesthesiologist, was appointed chief medical officer at Lutheran Hospital in Fort Wayne.

Dr. John J. Reed, a Hobart general practitioner, and Dr. Robert S. Martino, a Merrillville orthopedic surgeon, were honored at St. Mary Medical Center in Hobart when a newly renovated surgeon's lounge was named for

Dr. John F. Ansbro, an Evansville cardiovascular surgeon, was elected president of the medical staff at Deaconess Hospital; other officers are Dr. Alan H. Johnson, an Evansville orthopedic surgeon, president-elect; and Dr. Roy A. DeFries, an Evansville family practitioner, secretarytreasurer.

Dr. Charles M. Clark Jr., director of the Indiana University

Medical School's Diabetes Research and Training Center, has won the Banting Medal for distinguished service from the American Diabetes Association; he is president of the ADA.

Dr. Jack H. Hall received the 1989 Dave Warholak Volunteer of the Year Award from the American Heart Association; he is the department head of cardiovascular services at Methodist Hospital in Indianapolis.

Dr. Howard B. Brenner of Munster was elected president of the medical staff at Community Hos-

pital of Munster.

Dr. Randolph W. Lievertz, an Indianapolis family practitioner, lectured on "Pharmacological Updates on Estrogen Replacement Therapy" at a physician outing at the Pontiac (Mich.) Country Club; he spoke to the Tippecanoe County Medical Society on "Hormone Replacement Therapy After Menopause."

Dr. Scott A. Shapiro, assistant professor of neurosurgery at the Indiana University Medical Center, presented Grand Rounds on advances in the management of aneurysmal subarachnoid hemorrhage and intracranial malignant gliomas at Deaconess Hospital in Evansville; he also published a paper on "Radiation-Induced Intracranial Malignant Gliomas" in the Journal of Neurosurgery.

New ISMA members

Peggy L. Beyer, M.D., Butler, family practice.

Robert T. Burkhardt, M.D., Fort Wayne, anatomic/clinical pathol-

Raymond J. De Lorenzi, M.D., Indianapolis, orthopedic surgery. David A. Fisher, M.D., Carmel,

orthopedic surgery.

Roy S. Harper, M.D., Indian-

people

apolis, pediatrics.

Richard A. Hemmer, M.D., Louisville, Ky., emergency medicine.

Joseph R. Mantheiy, M.D.,

Bluffton, family practice.

John E. McCollum, M.D., Corydon, family practice.

Manfred P. Mueller, M.D., Indianapolis, pulmonary diseases.

Kevin J. Puzio, M.D., Indianapolis, neurology.

Christi L. Redmon, M.D., Peru, obstetrics and gynecology.

Douglas I. Silver, M.D., Indianapolis, diagnostic radiology.

Thomas A. Sonderman, M.D., Columbus, emergency medicine.

Brian J. Stogdill, M.D., Bluffton, urological surgery.

Craig M. Watts, M.D., Vincennes, diagnostic radiology.

Karen W. West, M.D., Indianapolis, general surgery.

Residents

Stephen R. Beck, M.D., Indianapolis, internal medicine.

Kathleen Bemenderfer, M.D., Indianapolis, obstetrics and gynecology.

Duane Berkompas, M.D., Indianapolis, internal medicine.

Doli E. Biondillo, M.D., Indianapolis, internal medicine.

Philip J. Borders, M.D., Indianapolis, psychiatry.

Robert A. Callon Jr., M.D., Indianapolis, internal medicine.

Alain J. Couturier, M.D., Indianapolis, occupational medicine.

Raymond E. Dusman Jr., M.D., Fort Wayne, cardiovascular diseases.

Andrew R. Greenspan, M.D., Indianapolis, internal medicine.

Marye E. Hacker, M.D., South Bend, family practice.

Edward A. Harlamert, M.D., Indianapolis, cardiovascular diseases.

David A. Hornback, M.D., Indianapolis, therapeutic radiology.

David B. Janizek, M.D., Indianapolis, radiology.

Kathryn G. Kroeger, M.D., Indianapolis, internal medicine.

Michael J. McMahon, M.D.,

Indianapolis, obstetrics and gynecology.

Brian C. Mehlhaus, M.D., South Bend, family practice.

James M. Platis, M.D., Indianapolis, general surgery.

Ilya Schwartzman, M.D., Indianapolis, family practice.

Naval Sondhi, M.D., Indianapolis, ophthalmology.

David H. Soper, M.D., Greenwood, anatomic/clinical pathology.

Linda E. Soper, M.D., Greenwood, family practice.

Frank P. Troiano, M.D., Beech Grove, internal medicine.

Gary R. Wright, D.O., Carmel, anesthesiology. □

Physician Recognition Award recipients

The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.

Brechtl, Harvey J., South Bend Carney, Peter M., Elkhart Cleary, Robert E., Indianapolis Frazier, Roger L., Hartford City Green, Robert F., Corunna Greer, David B., Evansville Griest, Walter D., Fort Wayne Hussey, Lawrence K., South Bend Jones, Anabel R., Lafayette Luce, John W., Michigan City Mannix, Benjamin C., LaPorte McGarvey, William K., Indianapolis Moore, Jeffrey K., Evansville Powell, Ronald W., Mishawaka Storm, Richard M., Indianapolis Woodruff, Richard N., Richmond

people

Indiana University presents honorary degrees, alumni awards

Indiana University recognized several individuals as part of annual Medical Alumni Day activities at the I.U. School of Medicine in Indianapolis.

Recipients of honorary degrees during the dedication of the Medical Research and Library Building were **Dr. Clyde Gray Culbertson**, Columbus, clinical professor emeritus of anatomic pathology; **Dr. Elson Bowman Helwig**, Washington, D.C., chairman of the Department of Gastrointestinal Pathology and registrar of the American Registry of Gastrointestinal Pathology; and **Omer Hiram Foust**, Indianapolis executive director of the James Whitcomb Riley Memorial Association.

The I.U. School of Medicine honored three individuals during the Medical Alumni Day awards

program.

Dr. Arthur L. Norins, chairman of the I.U. School of Medicine's Department of Dermatology since 1976, received the 1989 Glenn W. Irwin Jr. Distinguished Faculty Award.

Recipients of the Distinguished Medical Alumni Award were Dr. Paul C. Peters, chairman of the Division of Urology at the University of Texas Southwestern Medical School since 1971, and Dr. William B. (Joe) Moores, an Indianapolis dermatologist who has served on various I.U. medical school committees.

Dr. Culbertson has made significant contributions to the development of vaccines and drugs for the treatment and prevention of several diseases and is a world authority on free-living amoeba forms. As a research associate and director of the biological research division of the Lilly Research Laboratories, Dr. Culbertson was instrumental in developing the antibiotic erythromycin, a new and safer vaccine against rabies and the commercial development of the Salk vaccine for polio.

Dr. Helwig is a pioneer in the field of dermatopathology and a founder of that specialty. His research and clinical work have resulted in more accurate diagnosis of and treatment for skin tumors. He has trained many of today's leading dermatopathologists and has received numerous awards, including the Founder's Award of the American Society of Dermatopathology.

Foust was appointed executive director of the Riley Memorial Association in 1972 and played a central role in developing Riley Hospital as one of the pre-eminent children's hospitals in the United States. His efforts have been a key factor in the success of the Children's Miracle Network Telethon, the Mayflower Fund for Research into the Diseases of Children, the statewide campaign for the Kiwanis Trauma Life and other programs in support of health care in Indiana.

Dr. Norins, who graduated from the Northwestern University Medical School in 1955, has received numerous research and teaching awards, including the Borden Award for Research; the Golden Apple Teaching Award, which is awarded annually by the students at the I.U. School of Medicine; the Outstanding Clinical Professor Award; and the prestigious President's Award, which is given annually by the president of I.U. to one faculty member chosen from the entire university faculty for outstanding teaching.

the I.U. School of Medicine, was chief of urology, United States Air Force, at the Carswell Air Force Base Hospital and received the Commendation Medal for Meritorious Service. He is the immediate past president of the American Urological Association and has

Dr. Peters, a 1953 graduate of

the Russell and Mary Hugh Scott Award for Excellence in Continuing Education in Urology.

received many awards, including

Dr. Moores, a 1963 graduate of the I.U. School of Medicine, maintains many ties with the school. He lectures in dermatology classes, serves on the school's admission committee and served on the campaign to raise funds to equip and name the Victor C. Hackney Dermatopathology Laboratory, housed in the new Medical Research and Library Building. He received the Methodist Hospital Teacher of the Year Award in 1976 and the St. Vincent Hospital Teacher of the Year Award for

obituaries

Edgar A. Garland, M.D.

Dr. Garland, 73, a retired Evansville general surgeon, died June 28 at Deaconess Hospital in Evansville.

He was a 1940 graduate of the Indiana University School of Medicine and a World War II veteran.

Dr. Garland was certified by the American Board of Surgery and a member of the American Society of Anesthesiologists, the International College of Surgeons, the American Society of Abdominal Surgeons and the American Geriatrics Society.

He retired in 1983.

Robert B. Miller, M.D.

Dr. Miller, 74, a retired Fort Wayne otolaryngologist, died June 21 at his home.

He was a 1940 graduate of the Indiana University School of Medicine and an Army flight surgeon during World War II.

Dr. Miller was certified by the American Board of Otolaryngology.

He retired in 1977.

Hugh S. Ramsey, M.D.

Dr. Ramsey, 81, a retired Bloomington physician, died June 30 at Sacred Heart Nursing Home in Avilla

He was a 1934 graduate of the Indiana University School of Medicine and served in the Army Reserves in World War II.

Dr. Ramsey was a charter member of the Academy of Family Physicians, the Monroe County coroner in 1938 and a Bloomington city commissioner from 1953 to 1957.

Harry I. Shulruff, M.D.

Dr. Shulruff, 77, a retired East Chicago ophthalmologist, died June 21 at Northwestern Memorial Hospital in Chicago.

He was a 1936 graduate of the University of Illinois Medical College of Medicine and a medical corps veteran of World War II.

Dr. Shulruff was certified by the American Board of Ophthalmology and was a member of the American Academy of Ophthalmology and Otolaryngology and the ISMA Fifty Year Club.

Gerald M. Sinkovic, M.D.

Dr. Sinkovic, 42, an Indianapolis family practitioner, died June 21.

He was a 1972 graduate of the Indiana University School of Medicine.

Dr. Sinkovic was certified by the American Board of Family Practice and served on the Medical Advisory Board of Professional Careers Institute.

Mark E. Smith, M.D.

Dr. Smith, 62, a New Castle surgeon, died July 8 from injuries suffered in an automobile accident June 27 in Ohio.

He was a 1951 graduate of the University of Illinois College of Medicine and served in the U.S. Navy.

Dr. Smith was certified by the American Board of Surgery and was a member of the American College of Surgeons and the American Society of Abdominal Surgeons. He served on the New Castle Community School Corp. board for 21 years.

Memorials: Indiana Medical Foundation

The Indiana Medical Foundation, Inc., was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or eductional purposes." It provides financial assistance to support the educational mission of INDIANA MEDICINE.

Contributions made to the foundation are deductible by donors in accordance with the Internal Revenue Code. Gifts are deductible for federal estate and gift tax purposes.

The foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

J. Melvin Masters, M.D. Nancy A. Roeske, M.D. Richard Sharp Elsie A. Reid Murray DeArmond, M.D. William R. Clark, M.D. John W. Beeler, M.D. Mildred Ramsey Earl Mericle, M.D. John Bush Dallas McKelvey

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UROLOGIST – Join the nation's largest health care team. VA Medical Center, Lincoln, Neb., seeking BC/BE urologist for progressive 180-bed medical center. Licensure any state. Must meet English proficiency requirement. Lincoln is a university town with small-town atmosphere and metropolitan advantages. Lincoln VA Medical Center is affiliated with the University of Nebraska for urology resident program. Comprehensive benefit package. Allowable moving expenses payable. Contact Dr. Hirai, VA Medical Center, 600 S. 70th St., Lincoln, NE 68510, telephone (402) 489-3802, ext. 6750, or personnel service, (402) 486-7819. E.O.E.

POSITION AVAILABLE with thriving three-clinic urgency care corporation. Practice heavily emphasizing industrial, sports medicine and wellness programs. Package of \$85,000 plus additional profit-sharing for 42-hour work week. Parttime ER work available in addition. Contact Dr. Dean Elzey, (219) 489-2772.

PART-TIME STAFF PSYCHIATRIST -Position available for half-time psychiatrist in continuing care unit of a progressive JCAHO-accredited CMHC that serves and has locations in northern Indianapolis and two adjacent counties. This area is part of a carefully planned, attractive suburban community that features quality homes and condominiums. It has some of Indiana's best shopping and recreational facilities, cultural offerings and outstanding private and public schools. Center provides comprehensive services, including outpatient, 30-bed inpatient unit, partial hospitalization, residential programs, emergency services and consultation and education using a multidisciplinary staff. Candidate must be board-certified or board-eligible and should hold or be eligible for a current Indiana license. Salary negotiable with excellent fringe benefit package. EOE. Send resume to: A.J.

LaClave, M.D., Medical Director, Tri-County Mental Health Center, Inc., c/o St. Vincent Stress Center, 8401 Harcourt Road, Indianapolis, IN 46260.

INDIANAPOLIS, INDIANA – MetroHealth, a division of Methodist Hospital, is seeking board-certified or board-eligible physicians for the departments of emergency/urgent care, internal medicine and family practice. We are an established multi-specialty physician group offering an attractive compensation package and professional liability. Please contact: May Katz, Physician Recruitment, MetroHealth, P.O. Box 1367, Indianapolis, IN 46206, (317) 929-2711.

SUBURBAN INDIANAPOLIS – Leading multi-specialty group is seeking to add two OB/GYNs for a growing patient base. The modern office is located minutes from the community hospital. Competitive salary is offered with a full array of benefits including paid malpractice. Live in a community with an excellent quality of life and relaxed lifestyle. For more information, call Scott Toth, 1-800-327-1585, or (305) 271-9213 in Florida.

GENERAL (OR) SPECIALTY/GENERAL **PEDIATRICIAN** for 70-physician multi-specialty group in mid-north Indiana. BC/BE individual to join established pediatric department of a rapidly expanding clinic. Seven pediatricians now involved in practice. Community's superior schools and excellent economic environment a bonus. Big Ten university. One hour from Indianapolis and two hours from Chicago. Excellent compensation and benefit program and an opportunity to affiliate with leaders in pediatric medicine in this area of the state. Send CV to: R. Beesley, M.D., 2600 Greenbush St., Lafavette, IN 47904. (317) 448-8000 collect.

FOR SALE: Burdick E500 interpretive EKG. One year old. (317) 873-5612.

PHYSICIANS NEEDED - Family practice, internal medicine, oncology, endocrinology, neurosurgery, neurology, general surgery, orthopedic surgery. Group practice, solo or urgent care settings available through our hospital network located in Macon and serving all of middle Georgia. Your practice will be located 80 miles south of Atlanta, in a growing family-oriented community, where you can avoid traffic and enjoy a rewarding professional career. Please contact Stephen Wofford at (912) 741-6283 for a confidential consultation or write: P.O. Box 4627, Macon, GA 31208.

occupational Medicine: BC/BE to join a progressive organization providing health promotion (i.e., wellness) programs to corporate and public clients. Please sent confidential resume to Dr. Carl Otten, Personnel Development Group, 222 E. Ohio St., Suite 800, Indianapolis, IN 46204.

EMERGENCY STAFF POSITIONS – Full- or part-time positions immediately available with flexible scheduling in low-volume (7,500 annual visits) emergency department. Progressive, expanding rural hospital, one hour east of Indianapolis. Paid malpractice. Health insurance option. Income potential \$85K plus, based on 220 hours monthly. A.C.L.S. required. A.T.L.S. desirable. Please contact D.M. Duncan, M.D., Rush Memorial Hospital, 1300 N. Main St., Rushville, IN 46173; (317) 932-4111.

STUDENT HEALTH – Opening for primary care physician available immediately. Accredited facility provides medical services for 18,000 students. Full-time 11-month position. Competitive salary/benefit package and 40-hour week with no evenings. Board eligible/certified. Search continues until position filled. Contact Glenn Weiss, M.D., Student Health Service, Illinois State University, Normal, IL 61761; (309) 438-8655. Women and minorities encouraged to apply. Af-

classifieds

firmative Action/E.O.E.

EMERGENCY PHYSICIANS WANTED -For Fayette Memorial Hospital in Connersville, Ind. Will consider all physicians with emergency medicine experience. 15,000 visits/year. Fee-for-service group does its own billing. Hourly compensation based on training, experience and qualifications. Excellent fringe benefit package includes, life, health, disability and malpractice insurance plus CME allowance, ACEP and ISMA dues, pension plan and potential bonus. Contact: Michael D. Bishop, M.D., FACEP, Emergency Care Physicians, 640 S. Walker St., Suite A, Bloomington, IN 47403; (812) 333-2731.

OB/GYN RESIDENCY PROGRAM **DIRECTOR** – This 829-bed specialty referral center with 3,400+ deliveries a year, including many high risk, is seeking a full-time director (part-time private practice is available) for its OB/GYN residency program. Applications for boardcertified obstetrician/gynecologists or board-certified/board-eligible perinatologists or other subspecialties will be accepted. Teaching and administrative experience is preferred. Opportunities exist to receive a faculty appointment to the Department of OB/GYN at the Indiana University School of Medicine. Salary and benefits are negotiable and very competitive. Interested applicants should send a current curriculum vitae to: John Payne, M.D., Chairman, Search Committee for Director of OB/GYN Residency Program, c/o Medical Affairs Office, St. Vincent Hospital and Health Care Center, 2001 W. 86th St., Indianapolis, IN 46260. Equal Opportunity Employer.

PERINATOLOGIST – Progressive Midwest, 829-bed specialty referral center with more than 3,400 deliveries a year is seeking a full-time

board-certified/board-eligible perinatologist to develop new program. Four hospital-based neonatologists present. OB/GYN residency program in place. Opportunities available for clinical faculty appointment at local medical school. Excellent benefits. Salary is negotiable and very competitive. Interested applicants should send a CV to: Ronald G. Blankenbaker, M.D., Vice President for Medical Affairs, Medical Affairs Office, St. Vincent Hospital and Health Care Center, 2001 W. 86th St., Indianapolis, IN 46260, Equal Opportunity Employer.

FAMILY PRACTICE - Hospital-sponsored clinic opportunity. Dynamic, growth-oriented hospital in beautiful north central Wisconsin is seekina two family physicians for a new clinic facility currently being constructed. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefit package that is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact: Dan McCormick, President, Allen McCormick, France Place, Suite 920, 3601 Minnesota Drive, Bloomington, MN 55435, (612) 835-5123.

INTERNIST BE/BC - North Shore Internal Medicine, PC is seeking an energetic general internist to enjoy the benefits of a rapidly expanding practice. New office close to hospital. Michigan State Medical School Campus. Send resume to 2420 First Ave. South, Escanaba, MI 49829 - (906) 786-1563.

FAMILY PHYSICIAN, general practitioner or internist wanted to join three-man group in west central

Indiana. Competitive salary and percentage arrangement. Partnership arrangement possible after one year. Contact Frank Swaim, M.D., Parke Clinic, 503 Anderson St., Rockville, IN 47872; (317) 569-3182.

ILLINOIS - Great opportunity for an experienced emergency physician to join a career emergency group practicing in western and southwestern suburbs of Chicago. Please contact Debbie Aber (312) 327-0777 or send your CV to: Emergency Medicine S.C., 2142 N. Sedgwick St., Chicago, IL 60614.

INDIANA - Excellent opportunity for an experienced physician to join a career emergency group practicing in northwestern Indiana near Chicago. Please contact Debbie Aber (312) 327-0777 or send your CV to: Emergency Medicine S.C., 2142 N. Sedgwick St., Chicago, IL 60614.

FAMILY PRACTICE OPPORTUNITY - BC/BE; north central Indiana; flexible ER schedule for fully accredited county hospital in return for exceptional income, opportunity to set up own zero overhead practice, comprehensive benefits with all factors negotiable to meet specific practitioner needs. Send CV or contact collect: James Wyatt, Corporate Staffing Resources, 420 S. Fourth St., Elkhart, IN 46516 - (219) 522-2396.

CENTRAL INDIANA - Physicianowned emergency group accepting applications for full-time, career-oriented emergency physicians. Flexible work schedules and excellent benefit package. Parttime and directorship positions also available. Send CV or contact Sherry Bussel, Midwest Medical Management, Inc., 528 Turtle Creek, N. Drive, Suite F-4, Indianapolis, IN 46227 - (317) 783-7474.

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If so, please send change of address to the Indiana State Medical Association, Membership Department, 3935 N. Meridian St., Indianapolis, IN 46208, at least six weeks before you move.

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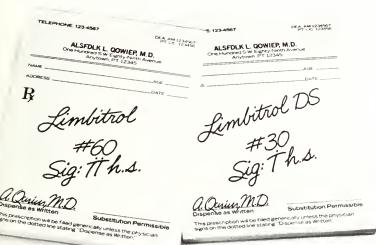
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IMPORTANT - Attach mailing label from your last copy of INDIANA MEDICINE here:

In moderate depression and anxiety

- → 74% of patients experienced improved sleep after the first *h.s.* dose¹
- First-week improvement in somatic symptoms¹
- 50% greater improvement with Limbitrol in the first week than with amitriptyline alone²



Protect Your Prescribing Decision: Specify "Do not substitute."

25 mg amitriptyline (as the hydrochloride salt)



References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Feighner JP. et al: Psychopharmacology 61:217-225, Mar 22, 1979.

Limbitrol® (V

Tranquilizer-Antidepressant

Before prescribing, please consult complete product information, a summary of which

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction

Warnings: Use with caution in patients with history of unnary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving) Usage in Pregnancy: Use of minor tranquilizers during the first trimester

should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy. Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence)

Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitiptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

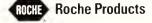
Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. Psychiatric: Euphoria, apprehension. poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. Anticholinergic: Disturbance of accommodation, paralytic ileus, unnary retention, dilatation of urinary tract. Allergic: Skin rash, urticana, photosensitization, edema of face and tongue, pruritus. Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointesti-nal*: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. Endocrine: Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. Other: Headache, weight gain or loss, increased perspiration, unnary frequency, mydnasis, jaundice, alopecia,

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and

Overdosage: Immediately hospitalize patient. Treat symptomatically and supportively I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

How Supplied: Double strength (DS) Tablets, white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and Tablets, blue, filmcoated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose* packages of 100; Prescription Paks of 50.



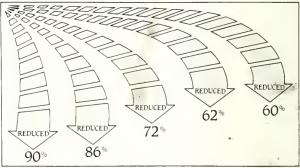
In the depressed and anxious patient

See Improvement In The First Week!...

And The Weeks That Follow

- → 74% of patients experienced improved sleep after the first *h.s.* dose¹
- → First-week reduction in somatic symptoms¹

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients. Percentage of Reduction in Individual Somatic Symptoms
During First Week of Limbitrol Therapy*



VOMITING NAUSEA HEADACHE ANOREXIA CONSTIPATION
*Patients often presented with more than one somatic symptom.

Each tablet contains 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)

25 mg amitriptyline (as the hydrochloride salt)

Limbitrol DS

ROCHE Roche Products

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INDIANA MEDICINE

The Journal of the Indiana State Medical Association

October 1989

Vol. 82, No. 10

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140th Annual Meeting Indiana State Medical Association October 27-29, 1989

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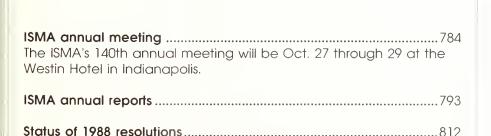
INDIANA MEDICINE

The Journal of the Indiana State Medical Association

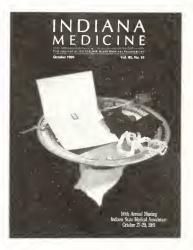
October 1989

Vol. 82, No. 10

scientific contributions



features_____



Cover story on page 784. Cover design and art direction by Greg Albright, Borshoff & Co., Indianapolis. Photo by B & L Photographers, Indianapolis.

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Advertising rates and data available upon request. INDI-ANA MEDICINE reserves the right to accept or reject advertising copy.

■ stethoscope

ISMA House of Delegates to discuss 57 resolutions

Fifty-seven resolutions have been submitted for consideration by the 1989 House of Delegates. The resolutions will be discussed at the annual convention Oct. 27 to 29 at the Westin Hotel in Indianapolis. Resolution topics include: acceptable blood alcohol levels for impairment and intoxication; opposition to mandatory ICD-9-CM coding requirement; an increase in medical licensure fees of Indiana physicians to provide a fund for a full-time medical director for the ISMA Commission on Physician Assistance; auxiliary representation on county medical society and the ISMA boards; change in the ISMA-HMSS Model Medical Staff Bylaws; insurance coverage for infertility diagnosis and treatment; amendments to IMPAC rules and regulations; additional state funding for graduate medical education; ISMA strategic plan; Medical Student Society vote at ISMA meetings; Drug-Free Indiana; infant mortality prevention; physician volunteer care for indigent patients; hospital medical staff self-governance; provision by ISMA of scientific information about abortion; and a standardized attending physician statement for disability.

AMA brochure offers tips on avoiding antitrust violations

Physicians can avoid antitrust violations, by following three rules of thumb provided by Edward B. Hirschfeld, J.D., the AMA's associate general counsel. First, don't agree with competing independent doctors on such terms as fee schedules, quantity or quality of services, which patients to serve and location of offices. Second, even informal discussion of third-party demands for lower fees can turn into agreements to take a "united front" against payors. Such joint action involves serious criminal risk. Third, the only ways you can negotiate with payors are individually or through a PPO. Insurers are often more open to negotiation than you might think. For more information, send for the AMA brochure, *Collective Negotiation and Antitrust*, which is free to members and \$2 for non-members. Write: Physician Negotiation Advisory Office, AMA, 535 N. Dearborn, Chicago, IL 60610.

ISMA announces date of leadership conference

The date of the 1990 ISMA Leadership Conference has been set. The meeting will be Saturday, March 24, at the Radisson Plaza Hotel in Indianapolis. Detailed information on the event will be mailed in January.

Dahling named to panel leading antidrug efforts

Fred Dahling, M.D., ISMA president, was appointed to the steering committee of the Governor's Commission for a Drug-Free Indiana, a panel challenged to lead the coordination of antidrug efforts throughout the state. \Box

what's new

Acuson Corp. has introduced a new 7 MHz sector transducer that offers detailed resolution of shallow structures, especially neonatal and pediatric hearts. The dual frequency transducer performs pulsed and color Doppler with optimal sensitivity to blood flow at both 7 MHz and 5 MHz. It will image tiny holes in the heart, minor abnormalities in cardiac valves and small blood vessels. Patent ductus arteriosus may be discerned easily with the higher frequency imaging provided by this transducer.

Ross Laboratories has announced the introduction of Pediazole® (erythromycin ethylsuccinate and sulfisoxazole acetyl for oral suspension) in new 250-mL size bottles. The new 250-mL size Pediazole conveniently provides the entire recommended dosage for children weighing 17 kilograms or more. Pediazole is effective against both beta-lactamase-producing and non-producing strains of *Hemophilus influenzae*.

Siemens has installed the first DIGISCAN storage phosphor screen system from series production and is currently the only manufacturer with U.S. Food and Drug Administration clearance to offer this latest generation system. This technology allows digital images to be produced with storage phosphor screens on today's conventional cassette x-ray units. The advantages are increased information content per image with improved image quality and lower radiation dose per exposure.

Wampole Laboratories has announced the availability of FLUORO-CEP,® an in vitro diagnostic assay for estrogen receptors

in breast carcinomas (progesterone assay available for research use only). FLUORO-CEP* histochemical reagents and test kits are available to laboratories and hospitals. Estrogen and progesterone receptor assay testing makes it possible to identify with considerable accuracy those patients who would respond positively to endocrine therapy.

The International Lipid Information Bureau reports that the recent Helsinki Heart Study provided evidence that increasing high density lipoprotein cholesterol and lowering the low density lipoprotein cholesterol levels with the lipid-regulating drug gemfibrozil (LOPID®) significantly reduces the incidence of fatal and non-fatal heart attacks in patients with elevated blood cholesterol. The Helsinki study began in 1981 to determine the effect of increasing HDL cholesterol and lowering LDL cholesterol on the incidence of coronary heart disease over a five-year period.

The Med-Pac Division of Uniflex has introduced Speci-Gard™, a new line of disposable specimen transfer bags. They are designed exclusively for the medical profession and feature onestep permanent adhesive sealing to create a liquid-tight seal. The

News of what is new in the medical supply industry is composed of abstracts from news releases. Each item published does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

new style SPA-R Press-to-Close bag is ideal for any hospital, reference lab or clinical use. It also has an open exterior pocket with a flap to hold requisitions.

The Association for the Advancement of Medical Instrumentation (AAMI) has announced a revision of the American National Standard titled Hospital Steam Sterilizers. This edition, which updates the standard first published in 1983, reflects changes in biological indicator test pack construction and placement. The revised standard covers minimum labeling, performance and safety and testing requirements in steam sterilizers. The AAMI also has published a new American National Standard titled Intracranial Pressure Monitoring Devices and a new technical information report, Selection and Use of Chemical Indicators for Steam Sterilization Monitoring in Health Care Facilities.

Hewlett-Packard Co. has developed an ultrasound-imaging system specially configured for transesophageal echocardiography (TEE) in the operating room. The new HP SONOS 500 TEE system helps anesthesiologists monitor the heart's performance during anesthesia and provides cardiac surgeons with a means to evaluate surgical repairs and guide various surgical procedures without invading the sterile field.

Wampole Laboratories has announced an expansion of the Zeus scientific product line of ELISA tests designed to detect antibodies to the *B. burgdorferi* spirochete. Now available are additional monovalent test kits for differentiation of IgG or IgM antibody, which are available for research use only. □

oxycodone & acetaminophen



Pain Management that Works.

Specify: Dispense as Written

PERCOCET® U TABLETS

Each tablet contains 5 mg oxycodone hydrochloride (WARNING: May be habit forming).

(WARNING: May be habit forming).

325 mg acetaminophen (APAP).

Brief Summary of Prescribing Information

INDICATIONS For the relief of moderate to moderately severe pain.

CONTRAINOICATIONS. Hypersensitivity to oxycodone or acetaminophen.

WARNINGS Orug Oependence: Oxycodone can produce drug dependence of the morphine type and, therefore, has the potential for being abused. Psychic dependence, physical dependence and tolerance may develop upon repeated administration of PERCOCET®, and it should be prescribed and administered with the same degree of caution appropriate to the use of other oral narcotic-containing medications. Like other narcotic-containing medications. PERCOCET® is subject to the Federal Controlled. narcotic-containing medications, PERCOCET® is subject to the Federal Controlled

PRECAUTIONS Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries Usage in Pregnancy: Pregnancy Category C: Animal reproductive studies have not been conducted with PERCOCET®. It is also not known whether PERCOCET® can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. PERCOCET® should not be given to a pregnant woman unless in the judgment of the physician, the potential benefits outweigh the possible hazards. Nonteratogenic Effects: Use of narcotics during pregnancy may produce physical

dependence in the neonate. Labor and Delivery: As with all narcotics, administration of PERCOCET® to the mother

Labor and Delivery: As with all narcotics, administration of PERCOCET® to the finding shortly before delivery may result in some degree of respiratory depression in the newborn and the mother, especially if higher doses are used.

Usage in ambulatory patients: Oxycodone may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using PERCOCET® should be cautioned accordingly.

Nursing Mothers: It is not known whether PERCOCET® is excreted in human milk.

Because many drugs are excreted in human milk, caution should be exercised when PERCOCET® is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

Acute abdominal conditions: The administration of PERCOCET® or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Special risk patients: PERCOCET® should be given with caution to certain patients such as the elderly or debilitated and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, and prostatic hypertrophy or urethral stricture. ADVERSE REACTIONS The most frequently observed adverse reactions include lightheadedness, dizziness, sedation, nausea, and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients, and some of these adverse reactions may be alleviated if the patient lies down.

Other adverse reactions include euphoria, dysphoria, constipation, skin rash and pruritus. At higher doses, oxycodone has most of the disadvantages of morphine including respiratory depression.

DOSAGE AND ADMINISTRATION Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. PERCOCET® is given

orally. The usual adult dose is one tablet every 6 hours as needed for pain.

DRUG INTERACTIONS Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics or other CNS depressants (including alcohol) concomitantly with PERCOCET® may exhibit an additive CNS depressions with a search control of the cont sion. When such combined therapy is contemplated the dose of one or both agents should be reduced.

The use of MAO inhibitors or tricyclic antidepressants with oxycodone preparations may

increase the effect of either the anti-depressant or oxycodone.

The concurrent use of anticholinergics with narcotics may produce paralytic ileus.
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cme calendar

Methodist Hospital

Methodist Hospital in Indianapolis will sponsor the following events:

- Nov. 1 Practical Topics in the Care of the Elderly: Lester Bibler Day, Methodist Hospital Auditorium, Indianapolis.
- Nov. 2-3 Eighth Annual Pediatric Critical Care Symposium, Westin Hotel, Indianapolis.
- Nov. 3-4 Advanced Trauma Life Support, Methodist Hospital Auditorium, Indianapolis.
- Nov. 10 New Strategies, Diagnosis & Treatment of Deep Venous Thrombosis, Methodist Hospital, Indianapolis.
- Nov. 17 Ethics Symposium, Ritz Charles, Carmel.
- Dec. 1-2 Fitness and the Primary Care Physician,
 National Institute for
 Fitness and Sport.

For information, call Dixie Estridge, CME, Methodist Hospital of Indiana, (317) 929-3733.

Indiana University

The Indiana University School of Medicine will sponsor the following courses:

- Oct. 26 Breast Cancer Update, Reid Memorial Hospital, Richmond.
- Oct. 28-29 Advanced Trauma Life Support, Wishard Memorial Hospital, Indianapolis.
- Nov. 3 Disorders of Sleep/ Wake Cycle: The Dynamic Duel, Vigo County Public Library, Terre Haute.
- brary, Terre Haute.
 Nov. 9 Office Orthopaedics,

- University Place Executive Conference Center and Hotel, Indianapolis.
- Nov. 9-10 Garceau-Wray Lectures, Wishard Memorial Hospital, Indianapolis.
- Nov. 10 Stroke Update 1989, University Place Executive Conference Center and Hotel, Indianapolis.
- Nov. 17-18– Fall Meeting, Indiana Chapter, American College of Surgeons, site to be announced.
- Nov. 18 Current Treatment of NIDDM and its Complications, University Place Executive Conference Center and Hotel, Indianapolis.
- Nov. 29 MATEC Clinical Series, Indiana University Medical Center, Indianapolis.
- Dec. 1-2 Facial Plastic Surgery Seminar, Big Four Classic '89, University Place Executive Conference Center and Hotel, Indianapolis.

For information, call Melody Dian, assistant director, CME, (317) 274-8353.

Ohio State University

A conference on "Multiple Sclerosis 1989" will be held Oct. 20 in Columbus, Ohio. The program will discuss pathogenesis, diagnosis and management of multiple sclerosis.

It is designed primarily for primary care physicians, neurologists, psychiatrists, ophthalmologists, optometrists, nurses, physical and occupational therapists and social workers.

For more information about the program, call 1-800-492-4445 or (614) 292-4985.

University of Michigan

The University of Michigan Medical School, Department of Anesthesiology, will sponsor a course titled "The Difficult Airway" Oct. 29 through 30 at the Towsley Center in Ann Arbor, Mich.

The program will address the diagnostic and therapeutic aspects of the difficult airway, reassess goals in consideration of patient care, present proper use and care of new flexible fiberoptic equipment and will include workshops on various topics.

For details, contact Pattie Goble, Office of CME, Towsley Center, Box 0201, University of Michigan Medical School, Ann Arbor, MI 48109-0201, 1-800-962-3555.

University of Wisconsin

"Update in Infectious Diseases 1989" is the title of a course to be held Nov. 16 through 18 at the Inn on the Park Hotel in Madison, Wis.

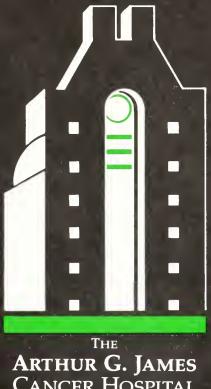
For information, contact Sarah Aslakson, CME, 2715 Marshall Ct., Madison, WI 53705, (608) 263-2856.

Academy of Pain Medicine

The annual conference of the American Academy of Pain Medicine will be Nov. 3 and 4 at the Grand Kempinski Hotel in Dallas.

Philip L. Gildenberg, M.D., clinical professor of neurology at the Medical School, University of Texas, Houston, will be the general conference chairman.

For information, write Ellis Murphy, AAPM, 43 E. Ohio, Suite 914, Chicago, IL 60611, or call (312) 645-0083. □



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Current transfusion issues



ADULT CRITICAL CARE MEDICINE

Methodist Hospital OF INDIANALING Niles R. Rosen, M.D. Indianapolis

Although hepatitis has always been a serious risk of blood transfusion, the discovery in 1983 that human immunodeficiency virus (HIV) infection was transmissible through blood transfusion has altered markedly the practice of transfusion medicine.

Today, the issues of informed consent for blood transfusion, autologous transfusion and directed donations are major concerns. National Institutes of Health (NIH) Consensus Conference reports on red blood cell (RBC) transfusions, fresh frozen plasma transfusions² and platelet transfusions have clarified the use of these blood components. Technological advances also have resulted in the availability of new, more preferable RBC products. This article will discuss these issues as they apply to the care of critically ill or injured patients.

Indiana has a statute defining the provision of human blood and blood products for transfusion as a medical service rather than a sale. This statute prevents liability for transfusion transmitted disease based on implied warranty of merchantability or fitness. However, liability based on negligence or willful misconduct may apply. When a patient who acquires a transfusion transmitted disease decides to sue, the issues of assault and battery (informed consent) and negligence (autologous transfusion and indications

for transfusion) may be raised.

Informed consent

Treatment of a patient without consent, except in an emergency, may constitute assault and battery. Therefore, informed consent should be obtained from a patient or medical guardian before non-emergency transfusions are performed during hospitalization. Although patients arriving in a critical care unit may already have received emergency transfusions, informed consent should be procured before additional non-emergency transfusions.

The informed consent process should include a discussion of the risks and benefits of transfusion and alternative therapies. If the patient consents, it should be documented in the medical record with either a hospital-approved form or a note stating: "The risks and benefits of blood transfusion and alternative therapies have been discussed with the patient (medical guardian). The patient (medical guardian) consents to transfusion." A refusal of transfusion also should be documented in the medical record.

Risks of transfusion

Despite HIV antibody testing of donor blood, HIV infection has been transmitted through transfusion by donors who are antigenemic but antibody negative. This risk ranges from 1:40,000 to 1:1,000,000. Since the adoption of new criteria for donor acceptability and the institution of additional non-specific surrogate test-

ing (alanine aminotransferase and antibody to hepatitis B core antigen) for non-A, non-B viral hepatitis, no large studies of the incidence of transfusion-associated hepatitis have been reported. However, the risk is less than 1:100 per unit. The discussion of other transfusion complications as shown in the *Table* should be individualized based on the patient's medical condition and ability to understand.

Autologous transfusions

While patients in a critical care unit are not candidates for predeposit autologous transfusion, they may be candidates for blood salvage and autotransfusion, if they have surgery. This alternative should be considered if the surgery will cause significant blood loss, and the operative field will not be contaminated by gastrointestinal contents, urine, malignant cells or septic tissue. Depending on the blood salvage technique used, the procedure may be cost effective for one or two units of blood.

Directed donation transfusions

Directed donations (DD) made by family and friends for use by the patient have become increasingly common. No study has shown that DD blood is safer than random homologous donor blood. In fact, transmissible disease markers are present in DD blood in the same frequency as first-time random donor blood. This incidence is higher than in repeat random donor blood. Therefore, statistically, random donor blood possibly is safer because of the higher number of repeat donors.

Nevertheless, the directed donation option is widely available. If a patient or the patient's family requests DD, every effort should

Table

Complications of transfusion

DISEASE TRANSMISSION

- Hepatitis
- · HIV
- * CMV
- ♣ HTLV-I
- ♣ Epstein-Barr virus
- Plasmodia
- Syphilis
- Chagas disease
- ♣ Bacteremia/endotoxemia

OTHER COMPLICATIONS

- Hemolysis
- Fluid overload
- Non-hemolytic febrile reaction
- Allergic reaction
- Anaphylactoid reaction
- Respiratory distress syndrome
- * Alloimmunization

be made to provide it, if possible, considering the 24- to 48-hour time lag required for arranging the donations and having the blood tested.

It is unwise for the physician to suggest DD to the patient or his/her family. Since DD blood is not proven safer than random homologous blood, use of DD is not medically indicated. It also is more costly, and delays may compromise a patient's care. Medically indicated transfusions should not be delayed unnecessarily because of DD blood.

Changing indications for transfusion

Altough limited space prevents a thorough discussion of indications for transfusion, some new ideas and rediscovered old ideas need to be mentioned.

The NIH Consensus Conference on RBC transfusions¹ challenged the idea of transfusing patients solely because their hemoglobin was less than 10 gm/dL. The new parameter is a hemoglobin level of 7 gm/dL. At this level, cardiac output increases dramatically in healthy humans.

The decision to transfuse RBCs must take into consideration the following: duration of anemia; amount of immediately prior blood loss not reflected by the hemoglobin level because of the delayed shift of fluid from the extravascular space into the intravascular space; amount of anticipated additional blood loss; and coexisting conditions related to pulmonary function, cardiac output, myocardial ischemia and cerebrovascular and peripheral vascular disease.

Patients who develop a chronic anemia with a hemoglobin level of less than 7 gm/dL often do not require transfusion. However, patients acutely developing an anemia below 7 gm/dL usually require transfusion. The decision to transfuse RBCs to patients acutely developing an anemia with hemoglobin levels above 7 gm/dL depends on the clinical assessment. Cardiac output, blood volume, oxygen extraction ratio, arterial oxygenation and mixed venous oxygen tension data facilitate this decision.

Like RBC products, fresh frozen plasma (FFP) and platelet prod-

ucts may transmit disease and cause serious reactions. It is clear that FFP often is used unnecessarily and inappropriately as a volume expander or a nutritional source. Safer alternatives exist. In the critical care setting, FFP will usually be used to treat documented coagulopathies other than isolated deficiencies of Factor VIII, von Willebrand's factor or fibrinogen.

within a few hours is best transfused with whole blood, if available, because the patient requires both RBC and volume support. However, patients needing smaller volumes of blood should not be transfused with whole blood because it is more costly than other products, and each unit of whole blood placed in inventory reduces the availability of FFP and platelets. These patients

managed by premedication with an antihistamine. Washed RBC should not be used to prevent or treat patients with non-hemolytic febrile reactions. Other leukocyte poor products that are less costly and yield a better RBC recovery are available.

Summary

The transmissibility of HIV infection through blood transfusion has resulted in many altered ideas about blood transfusion and a reevaluation of the indications for transfusion. Because of the risks of transfusion, the increased emphasis on proper use of hospital resources and the increasing number of managed care patients, a continuing emphasis on the appropriate indications for transfusion can be anticipated.

The author is director of the blood bank at Methodist Hospital of Indiana, Indianapolis. Dr. Rosen acknowledges the assistance of Maureen R. Noble.

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The use of washed RBC in the critical care setting should be virtually eliminated.

The use of FFP and platelets in the massively transfused patient has long been controversial. The prophylactic use of FFP or platelets in patients being transfused with more than one blood volume within several hours is inappropriate. However, if there is documented evidence of a coagulopathy (prolonged PT and aPTT or platelet count less than 50,000/µl) or evidence of pathologic hemorrhage or microvascular bleeding in a patient in whom it is inappropriate to await laboratory test results, transfusion of FFP and/or platelets is appropriate. If there are not adequate supporting laboratory data, the reasons for transfusion should be documented in the medical record.

Red blood cell products

An actively bleeding patient who is going to require replacement of at least one blood volume are best transfused with RBCs, either as packed RBC or additive solution RBC (AS-RBC).

Additive solutions (AS-1, AS-3, AS-5) contain varying amounts of sodium chloride, dextrose, mannitol and adenine and are added to donor blood after the plasma components have been removed. AS-RBC contains 75 to 100 mL more volume than packed RBC; has a viscosity and flow rate similar to whole blood; and has an expiration of 42 days rather than the usual 35 days. Packed RBC also can flow at a rate similar to whole blood if 75 to 100 mL of normal saline is added before transfusion.

The use of washed RBC in the critical care setting should be virtually eliminated. This product should only be used for patients with severe allergic reactions (urticaria, rash, pruritus, anaphylaxis) that cannot be adequately



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Radiology Clinic:

Mediastinal mass in a man with back pain

Steven Don, M.D. Dewey J. Conces Jr., M.D. Indianapolis

A 35-year-old previously healthy white man was admitted with complaints of a vague pressure sensation in his back. He was in good health until two months before admission, when he developed vague, non-localizing, thoracic spine pain. Further questioning revealed mild dyspnea on exertion with a chronic cough. He denied hemoptysis, weight loss, fever and neurologic

problems. He smoked an occasional cigar or cigarette.

Physical exam revealed a welldeveloped white man in no apparent distress. The physical examination and electrocardiogram were normal. Arterial blood gas on room air revealed a pH of 7.43, pO, 76, pCO, 33 and 94% saturated. The pulmonary function test showed a mild expiratory obstructive pattern (FVC 3.97L [73% predicted], FEV, 2.51L, FEV. /FVC 63%).

The chest radiograph (Figure 1) revealed a 15 cm, right-sided, smooth, rounded mass arising

posterior to the heart and great vessels with no rib or vertebral destruction. Contrasted computed tomography (CT) (Figure 2) demonstrated a mass with a thick wall and low-density center suggestive of fluid. There was displacement of the right mainstem bronchus and right upper lobe bronchus anteriorly as well as compression of these structures. Bronchoscopy showed extrinsic compression of the right mainstem and upper lobe bronchi without invasion of the bronchi. The surgical resection was complete and without complication.



Figure 2: Computed tomography.

Figure 1: Chest radiograph.

Diagnosis

Neurilemoma with cystic degeneration (ancient schwannoma).

The differential diagnosis of any mediastinal mass must start with the location of the mass. The anterior mediastinum is bound anteriorly by the sternum and posteriorly by the pericardium and great vessels. It contains the thymus gland, lymph nodes and fat. The middle mediastinum contains the pericardium and heart, great vessels, trachea, lymph nodes and vagus and phrenic nerves. The posterior mediastinum is bound anteriorly by the pericardium and posteriorly by the vertebral bodies and paravertebral gutters. It contains the descending aorta, esophagus, thoracic duct, azygous and hemiazygous veins, nerves and lymph nodes.1

The most common cause of a posterior mediastinal mass is a neurogenic tumor.² Other causes include lymphoma, lateral meningocele, foregut and neurenteric cysts, extramedullary hematopoiesis and aneurysm of the descending thoracic aorta.^{3,4} The origin of neural tumors embryologically is the neural crest, which gives rise to both nerve cells (ganglion and paraganglion) and to the support-

ing cells (schwann).5

Supporting cell tumors include neurilemoma and neurofibroma. Neurilemoma or schwannoma are benign tumors that account for one-third of neurogenic tumors and are the most common cause of neurogenic tumors.^{2,5} Neurofibroma is the other tumor of supporting cells and accounts for 10% of neurogenic tumors. Thirty percent of patients with an intrathoracic neurofibroma have von Recklinghausen's disease. Both neurilemoma and neurofibroma have their peak age of presentation in the 30s.² The usual presentation is an asymptomatic mass found on chest radiograph obtained for other reasons, but occasionally the patient may have back pain, neurologic symptoms or respiratory symptoms." CT in neurilemomas can show low-density masses, as in our case, which represent cystic degeneration due to vascular thrombosis.6 Neurofibromas are usually solid masses without areas of inhomogeneity on CT.6

Tumors of ganglionic origin include neuroblastoma, ganglioneuroblastoma and ganglioneuroma and represent various degrees of ganglionic differentiation. These three tumors comprise one-half of the neurogenic tumor. Most patients have constitutional symptoms such as fever, weight loss and localized pain. The age of presentation is much earlier, childhood to teenage, compared to supporting cell tumors. Ganglioneuromas can be seen in middle-aged patients. Paragangliomas are rare tumors of the

extra-adrenal paraganglion system and may or may not be functional.²

Primary therapy for all intrathoracic neurogenic tumors is surgical resection. The supporting cell tumors all have excellent prognoses since they are rarely malignant. The ganglionic tumor prognosis depends on the differentiation of the nerve cells with a poor prognosis for neuroblastoma.

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Percutaneous transluminal coronary angioplasty:

Update 1988

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This is the fourth in a series of biannual reports designed to provide an understanding of the current indications, techniques and limitations of percutaneous transluminal coronary angioplasty (PTCA).¹⁻³ A review of these previous publications illustrates the dramatic evolution of the procedure.

The first manuscript, written in 1981, simply reported that PTCA was possible. In retrospect, the 33% failure rate using non-steerable balloon catheters seems fearsome. The second report detailed the improvements in equipment, which enhanced the success rate and reduced acute complications. The next report was enthusiastic about our abilities to reach and dilate almost any area of the coronary tree but recognized a variety of procedural limitations. Particular focus was directed toward restenosis, identification of highrisk lesions and PTCA treatment of multivessel coronary disease in lieu of myocardial revasculariza-

Abstract

This report updates the current indications, techniques and investigational devices used in a busy interventional cardiology practice. Specific attention is devoted toward the problem areas of thrombolytic treatment of acute myocardial infarction, restenosis after angioplasty and the use of angioplasty in the treatment of multivessel coronary artery disease.

tion surgery.

After reviewing the data gathered from 1986 to 1988, it was somewhat surprising how little real change had occurred. Equipment and operator abilities have reached a plateau, and new breakthroughs in technology will be required to further advance PTCA. Alternates to balloon compression (e.g., lasers), which we outlined as having promise in our 1985 paper, have been slow to achieve clinical use. They continue to show promise for peripheral angioplasty and presently are being investigated for use in the coronary arteries, as engineers strive to improve flexibility, reduce size and control energy delivery. Coronary atherectomy, which we reported on earlier this year, also shows promise, but it too is in its infancy.

This article is an update of present methods and data base through December 1988. Rather

than focus on numbers, we have chosen to discuss the three dominant problems facing PTCA today: 1) appropriate use/timing of PTCA in acute myocardial infarction; 2) restenosis; and 3) use of PTCA in multivessel coronary artery disease.

Materials and methods

Our approach to PTCA has not changed appreciably in the past three years. The femoral approach is preferred due to the stability of the guiding catheters in the coronary ostia during the procedure. A continuous infusion of low-dose intravenous nitroglycerin and full anticoagulation with heparin are begun before the procedure in the catheterization laboratory. These medicines are continued for 12 to 24 hours after PTCA in an effort to minimize spasm/thrombosis at the site of PTCA. A calcium channel blocker and aspirin are begun orally before PTCA and continued for at least six months after PTCA. Beta-blockers are tapered before PTCA, if possible, in an effort to minimize their contribution to coronary spasm.

A treadmill stress test is recommended several weeks after PTCA for baseline and at intervals during the first six months after PTCA when the risk of restenosis is highest.4 Restenoses are evaluated with thallium treadmill testing at six months. If symptoms or abnormalities on the treadmill test recur, repeat catheterization and often repeat PTCA are required. Once the initial six-month followup is completed, a recurrence of symptoms is more likely associated with a new lesion rather than a recurrence at the PTCA site. 5,6

Results

Table 1 outlines our overall PTCA experience. Table 2 shows the surprisingly stable proportion of multivessel cases performed during the past four years. This reflects our respect for the excellent long-term event-free results that can be achieved using modern cardiovascular surgery techniques, especially if the internal mammary artery conduit is used.⁷ Despite attempting PTCA of more difficult stenoses, the acute complication rate remains low with only 71 (4%) patients requiring emergency myocardial revascularization surgery in the past two

A significant development has been the coronary perfusion catheter ("bail-out" catheter), which has multiple side holes allowing proximal-to-distal coronary perfusion through a closed or dissected vessel. This catheter is inserted over the guidewire in place of the balloon catheter and permits urgent transport to the

Table 1

Total PTCA experience: 1980 to 1988

<u>Year</u>	Number stenoses dilated	Primary success
1980	10	60%
1981	60	76%
1982	179	85%
1983	381	89%
1984	599	92%
1985	1,069	94%
1986	1,339	91%
1987	1,395	92%
1988	1,194	94%
Total	6,226	92%
_		

Table 2

Multivessel PTCA: 1983 to 1988

Year	Total PTCA cases	Multivessel PTCA cases	Percentage
1983	341	40	12%
1984	535	61	11%
1985	774	221	29%
1986	843	233	28%
1987	873	222	25%
1988	784	266	34%

operating room with less risk of acute myocardial infarction to the patient. A coronary sinus retroperfusion catheter also has become available to clinical investigators for use in high-risk patients during PTCA (*Figure 1*). Some centers are investigating the use of femoral-femoral cardiopulmonary bypass during PTCA to enhance procedural safety in high-risk lesions.

Discussion

An enormous source of frustration to interventional cardiologists is the slow progress in development of new devices for angioplasty.9-12 This sense of frustration has been compounded by the premature enthusiasm of the press, which has led many patients to have unrealistic expectations based on the latest "nightly news" release. Laser catheters (to vaporize the stenosis), atherectomy devices (to resect the stenosis) and stents (to preserve luminal patency) remain unavailable for clinical use (Figure 2). Rather than speculate when and if engineers can provide these new devices to safely perform PTCA, we wish to recognize our continued dependence on the balloon approach and discuss some of its

more troublesome and controversial aspects (*Table 3*).

PTCA for acute myocardial infarction

The pioneering work by De-Wood and associates showing enhanced survival following acute myocardial infarction treated with immediate myocardial revascularization surgery stimulated a search for a less invasive method of restoring flow to the myocardium shortly after the onset of myocardial infarction.¹³ Use of thrombolytic agents directly into the involved coronary artery (e.g., intracoronary streptokinase) showed promise, but the necessity for a readily available catheterization laboratory suggested an intravenous approach would be preferable.¹⁴ Simultaneously, PTCA was shown capable of opening the occluded coronary artery acutely at the time of myocardial infaretion, perhaps even more quickly and completely than thrombolysis.15 Studies using primary PTCA without thrombolytic therapy have recorded infarct-related artery patency in approximately 90% of vessels so treated.

Advantages of immediate PTCA include rapid and maximal relief of ischemia as the arterial lumen is returned to nearly normal caliber at the time of reperfusion. As the need for high dose thrombolytic therapy is obviated, bleeding complications are minimized. 17

The over-riding disadvantage of emergency angioplasty is the need for patient access to an interventional laboratory within two to four hours after the onset of symptoms. This type of service is presently available only to a minority of patients suffering acute myocardial infarction, even with the best available surface and air transport emergency services.

Therefore, use of intravenous thrombolytics, if proven to be relatively safe and relatively effective compared to either conservative supportive care or immediate PTCA, would seem appropriate for most individuals now suffering acute myocardial infarction. ^{18,19}

Thrombolytic therapy using a variety of agents has been shown to restore patency in the infarct-related vessel in 40% to 80% of the cases, depending on the agent administered, dosage and the duration of symptoms before initiating therapy.²⁰ Compared to immediate PTCA, the obvious advantage of thrombolytic therapy is the ability to begin treat-

ment early, in an outlying emergency room or even the ambulance. Disadvantages include the risk of bleeding, especially intracranially, and a less than optimal rate and degree of restoration of patency.²¹ Lytic therapy generally partially restores flow after a period of 60 to 90 minutes, whereas angioplasty performed in an emergency can restore virtually full flow within a very few minutes.

With these facts in mind, it is obvious why two approaches to acute myocardial infarction have evolved, depending primarily on the availability of an interventional laboratory. If it is unlikely that a patient suffering

Table 3

A. Indications for PTCA

- 1. Single vessel stenosis with high probability of success and low risk of significant complication.
- 2. Multivessel stenosis, each of which is favorable for PTCA.
- 3. Vein graft or internal mammary artery bypass conduit stenosis.
- 4. Certain high-risk stenoses in medically refractory patients not considered candidates for revascularization surgery.
- 5. Initial treatment for acute myocardial infarction causing cardiogenic shock.

B. (Relative) contra-indications for PTCA

- 1. Left main coronary artery stenosis unprotected by previously placed bypass grafts.
- 2. High-risk stenoses where failure of PTCA is likely to cause cardiogenic shock.
- 3. Repeat PTCA in lesions prone to develop restenosis.

C. Controversial indications for PTCA

- 1. As initial treatment for acute myocardial infarction or as early adjuvant treatment within several hours after thrombolytic therapy when the patient is hemodynamically stable.
- 2. Multivessel disease in which complete revascularization is not possible with PTCA but could be achieved with myocardial revascularization surgery (e.g., chronic total occlusion of one or more vessels large enough to bypass).
- 3. Multivessel PTCA, recognizing short-term risk of restenosis.



Figure 1: An injection of the coronary sinus from the distal port of the retro-perfusion balloon catheter, which has been inserted in the coronary sinus. This shows the large area of anterior and lateral myocardium potentially capable of augmented oxygenation.

Figure 2A: Subtotal stenosis of a saphenous vein bypass graft before coronary atherectomy.

acute myocardial infarction could undergo PTCA within four to six hours after onset of chest pain, then use of intravenous thrombolytic agents is best. If immediate access to PTCA is possible, then this approach is recommended.

There remain, however, a large number of patients in a borderline situation, including those who go to an emergency department in a hospital some distance from a tertiary care center. Should these patients be given a thrombolytic and transferred acutely, be transferred acutely for immediate PTCA or be given a thrombolytic and transferred electively for later cath and possible PTCA?

Some answers are clear. First, if the patient demonstrates signs of hemodynamic collapse consistent with cardiogenic shock, then immediate PTCA has been demonstrated lifesaving. Urgent transfer of these individuals to a hospital with interventional cardiology facilities is indicated. Whether or not these individuals should be given thrombolysis before transfer remains controversial. Risks of bleeding, especially if CPR is needed, may be considerable. Topol et al have suggested that emergency PTCA performed shortly after administration of TPA is less successful than if it was not "on board.22" Nevertheless, thrombolytics may minimize clot size and perhaps open the involved vessel while in transit.²³ If the subsequent PTCA is not successful, the thrombolytic can be reversed with blood products while preparing the patient for myocardial revascularization surgery.24 We recommend, therefore, starting the administration of a thrombolytic before transfer if no other contra-indications to its use exists.25

Second, certain individuals should not receive thrombolytics,

including those with prior history of CNS event, recent surgery, significant hypertension, those over the age of 70 or those suffering a non-transmural myocardial infarction evidenced by global ST depression. These latter two groups had increased mortality compared to controls in the GISSI (streptokinase) study.²⁶ They are best treated by traditional measures or possibly PTCA if hemodynamic status warrants.²⁷

Third, there currently is no best thrombolytic agent. The cost factor coupled to the excellent results of streptokinase/aspirin in the ISIS II trial are persuasive.²⁸ TPA does seem preferable if the onset of chest pain was more than three hours from time of arrival in the hospital setting, as TPA is more "clot specific" and achieves a better short-term patency rate than streptokinase if administration of the thrombolytic is delayed more than three hours after onset of

pain. New agents such as APSAC or prourokinase may yield improved results with fewer complications and fewer re-occlusions but currently remain investigational.²⁹ Combinations of a variety of thrombolytics

also are being tested.

Finally, if intravenous agents are used, a critical stenosis often remains, which may require subsequent intervention to prevent early re-occlusion. The timing of this intervention, either revascularization surgery or PTCA, has been debated. Some individuals favor immediate angioplasty; others favor waiting several days before performing an elective catheterization. Still others prefer a more conservative approach, proceeding to catheterization only if symptoms of ischemia re-occur or are evident on subsequent exercise testing. Which of these approaches is best has not yet been clarified.

Teleologically, one would expect an optimal treatment regimen for acute myocardial infarction to consist of immediate lytic therapy followed by urgent PTCA as soon as the patient could be transported to a catheterization laboratory.^{23,25} The rationale for this type of treatment would be to provide a 60% to 70% chance of "partial" restoration of blood flow in the infarct-related vessel within 90 minutes after presentation to an emergency facility followed by complete reperfusion at the earliest opportunity. Unfortunately, the risks of angioplasty in the setting of acute clot formation are recognized to be higher than that of a vessel without clot present, and consequently several days of continued lytic therapy may allow a more successful long-term angioplasty result to be achieved. Furthermore, occasionally the clot resolves virtually completely, and angioplasty is unnecessary in this setting.22,3

Currently, we believe acute thrombolytic therapy followed by continuous heparin infusion to minimize reclosure pending cardiac cath with PTCA standby performed 36 to 48 hours afterward is optimal for most patients who suffer myocardial infarction in a location remote from immediate access to PTCA.^{31,32}

Restenosis

Improvements in balloon/guidewire technology permit virtually all areas of the coronary arteries to be reached for PTCA. Consequently, the main focus of concern has shifted from immediate technical failure to that of mid-term failure due to re-narrowing at the site of PTCA. This may occur in 20% to 50% of vessels dilated, depending on the site of PTCA, presence of thrombus, residual stenosis, presence of risk factors such as smoking, etc.³³⁻³⁵ The character of the resten-



Figure 2B: Atherectomy catheter cuttinghead placed across the stenosis.



Figure 2C: Balloon inflated to stabilize the atherectomy cuttinghead against the stenosis.



Figure 2D: Saphenous vein bypass graft after completion of the atherectomy procedure.

osis has been documented to be of different morphology than the typical atherosclerotic plaque.³⁶

The site of restenosis shows intimal hyperplasia due to the endothelial injury response to intimal disruption by the balloon. Multiple medications, including calcium channel blockers, nitrates, aspirin, dipyridamole, heparin, warfarin and steroids, have been studied in an effort to minimize restenosis. None of these have been successful. It is abundantly clear that until this problem with restenosis is solved, the procedure will always remain less than optimal. Investigational efforts currently under way directed toward this problem include the use of intra-arterial stents, excision of the plaque with a sharp cutting edge (atherectomy) rather than tearing the intima with balloon dilatation, vaporizing the plaque with laser or ultrasound energy or microfragmentation of the plaque by abrasion with a high-speed rotary tool.

Potent anti-platelet agents also are being studied to minimize the platelet adherence at the site of endothelial damage that occurs immediately following angioplasty and seems to trigger the cycle of spasm - clot - smooth muscle cell proliferation that results in restenosis.

Multivessel angioplasty

With restenosis rates in single vessel PTCA between 20% and 50%, it is intuitively obvious that the restenosis rate will be even greater when multiple sites are dilated in a single patient. Indeed, this has been our experience as well as that of others. The with the most optimal situation (several stenoses easily approachable with good chances of com-

plete revascularization), the need for a second PTCA or revascularization surgery due to recurrent symptoms of ischemia is more than 30%. 40,41 Therefore, patients must understand that PTCA in this situation is not likely to provide complete resolution of their problem in the short term and that there is a relatively high likelihood that they will require a second procedure within six months. 42,43 Nevertheless, it is not inappropriate to offer PTCA to these individuals, as successful revascularization may be achieved without the need for the expense and trauma of open chest revascularization surgery.44

A more difficult situation is the patient with multivessel disease in which PTCA cannot achieve complete revascularization, for example, a patient with a long, totally occluded segment of an ar-

tery supplying viable myocardium due to collateralization. If the distal vessels are suitable, then bypass surgery would likely achieve complete revascularization, whereas PTCA of a culprit lesion might provide partial relief of symptoms but residual ischemia would likely still be present to some degree. A5,46 Again, the patient needs to be properly apprised of the risks and benefits of both PTCA and bypass surgery in

New technology that could limit restenosis is crucial to facilitating more widespread use of multivessel PTCA. Results of trials randomly assigning patients with suitable multivessel disease to PTCA versus coronary artery bypass graft are pending and will help guide our clinical decisions in the future.⁴⁷

this situation and allowed to make an informed decision.

Conclusion

Our seven-year experience with PTCA shows initial explosive growth due to improvements in equipment and operator experience. More lesions may be approached and dilated with safety. However, when our results from 1986 through 1988 are compared to those reported in 1985, it becomes apparent the degree of initial technical success (primary success) has plateaued. Certainly, the procedure is now extended to a wider range of patients including those with complex or multivessel stenoses,48 bifurcation lesions,⁴⁹ stenoses in saphenous vein and/or internal mammary artery bypass grafts^{50,51} and to patients with poor ventricular function.

Nevertheless, the problem of restenosis has become the overwhelming limitation of the procedure. Only when this problem is solved will angioplasty truly provide a satisfying long-term alternative to open chest myocardial revascularization surgery.

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Unusual presentation of pulmonary edema in a hemodialysis patient

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L arge scale dialytic support for end-stage renal disease (ESRD) patients began in 1972 with the passage of Public Law 92-603. This bill provided for financial support for the ESRD population. Subsequently, the number of patients on chronic dialysis has increased yearly to more than 80,000 individuals in the United States. Despite advances in the dialytic technique, problems remain, such as chronic fluid overload.

Chronic fluid overload manifested as pulmonary edema is a common and serious complication of renal failure. It occurs because of fluid overload either alone, in combination with left ventricular dysfunction, increased pulmonary capillary permeability or hypoproteinemia and its resultant decrease in oncotic pressure.¹

Pulmonary edema's appearance on chest x-ray has the classic features of a central interstitial infiltrate with a "bat-wing" distribution, Kerley A and B lines, thickening of interlobar fissures and pleural effusions.² However, in rare instances, pulmonary edema

Abstract

Despite the technical advances made during the last several years, chronic dialysis still is plagued by continuing problems. Intermittent volume overload is one of the most common. The radiologic evidence of pulmonary edema can be confusing in the end-stage renal disease population. The following case illustrates a hemodialysis patient with pulmonary edema whose initial chest x-ray appeared more consistent with metastic malignancy.

has been reported to have unusual chest x-ray appearances, including the appearance of lobar pneumonia, unilateral pulmonary edema and the "cannon-ball" lesions of fungal or metastatic disease.^{3,4,5} The following case describes a dialysis patient with pulmonary edema and a deceptive chest radiogram.

The patient is a 58-year-old white man with end-stage renal disease secondary to diabetes mellitus and hypertension. He receives in-center hemodialysis treatments three times a week. His most recent hospital admission was six months earlier for Gore-tex graft placement for initiation of chronic hemodialysis. Discharge weight at that time was 95.3 kg.

During the next six months, the patient's target weight at the dialysis unit had been raised, as the patient appeared to be gradually gaining real body weight following the initiation of chronic dialysis. On the afternoon of admission, the patient was seen at his outpatient dialysis facility where hemodialysis was initiated. Shortly before the end of his treatment, he began to complain of chest pain consistent with cardiac pain. Because of this complaint, the hemodialysis treatment was discontinued, and the patient was transferred to the Methodist Hospital emergency department.

Physical examination in the emergency department revealed essentially negative results, except for evidence of volume overload. Admitting weight was 102.6 kg. Laboratory evaluation included electrolytes with the following values: sodium, 138 mEq/L; potassium, 4.5 mEq/L; chloride, 97 mEq/L; and bicarbonate, 22 mEq/L. Serum creatinine was 9.4 mg/dL and BUN was 55 mg/dL.



Figure 1.

Hemoglobin was 6.7 gm/dL with a white blood cell count of 15 thousand/ μ l. An arterial blood gas on room air included a pCO₂ of 31 mm Hg and a pO₂ of 66 mm Hg.

An electrocardiogram was unchanged compared to one from his previous admission. The admission chest x-ray showed multiple bilateral pulmonary nodules with sizes ranging from 5 mm to 2 cm diameter (Figure 1). These nodules were not present on a chest x-ray done six months earlier. The nodules were most consistent with heme autogenous metastases. The patient subsequently was admitted for treatment and evaluation of his chest pain, anemia and abnormal chest x-ray. Initial infectious evaluation was negative.

The chest pain gradually abated

during the next few days, and cardiac causes were ruled out. Evaluation of the abnormal chest x-ray included a computerized tomography scan of the abdominal and pelvic retroperitoneum, searching for masses or adenopathy. These studies proved negative. Serum tumor marker studies, CEA and alpha fetoprotein, were both within normal limits. Acid phosphatase was low at 1.0 IU/L, but human chorionic gonadotropin was elevated slightly at 14.6 mIU/ml (normal nonpregnant values being less than 10 mIU/ml). Testicular ultrasound was normal.

The patient was dialyzed on two occasions with the emphasis on removal of excess fluid. Postdialysis weight following the second treatment was 96.6 kg. Following this second treatment, the chest x-ray was repeated. This chest x-ray showed complete resolution of the parenchymal abnormalities and only mild venous congestion with a small amount of interstitial edema remaining (*Figure 2*).

It is uncertain why pulmonary edema sometimes leads to unilateral or localized fluid collections, as in the case presented here. The effects of gravity and positioning have been offered in the explanation for unilateral pulmonary edema.6 Local variations in pulmonary venous pressure or disturbances in neurogenic control of capillary size and permeability may explain more localized pulmonary edema.4 Regardless of the mechanism, pulmonary edema can have a deceptive appearance on chest x-ray. It is unclear why these deceptive appearances appear to occur more commonly in chronic dialysis patients.

In the evaluation of an abnormal chest x-ray, the possibility of pulmonary edema, either cardiogenic or noncardiogenic, even when the appearance is more suggestive of a malignant or infectious process, should be included



Figure 2.

in the list of differential diagnoses. Failure to include pulmonary edema as a possible diagnosis can lead to a delay in initiating appropriate therapy.

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■drug names

Look-alike and sound-alike drug names

METHOCARBAMOL

Category: Skeletal muscle relaxant Brand name: Robaxin, Robins

Generic name: Methocarbamol

Dosage forms: Tablets, injection

Mebaral, Winthrop-Breon

Mephobarbital

Tablets

NICARDIPINE

Calcium channel blocker

Cardene, Syntex

Generic name: Nicardipine HCl

Dosage forms: Capsules

Category:

Brand name:

MEPHOBARBITAL

Sedative & hypnotic

NIFEDIPINE

Calcium channel blocker

Procardia, Pfizer

Adalat, Miles

Nifedipine

Capsules

Benjamin Teplitsky, R. Ph. Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions.

Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such lookalike and sound-alike drug names can reduce potential errors.



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Microphleboliths in vascular ectasia of the intestine:

A case report

Michael N. Fenner, M.D. Moo-Nahm Yum, M.D. Sue Ann Strayer, M.D. James A. Madura, M.D.

Vascular ectasia, also called angiodysplasia, has been increasingly recognized as an important cause of gastrointestinal bleeding since the introduction of selective mesenteric arteriography by Baum et al.¹ The vascular lesions usually are small and difficult to identify in the resected specimens. Baum called it the "emperor's clothes syndrome" because surgeons and pathologists cannot see what the radiologists see on their arteriograms.

The right colon is the most common site of vascular ectasia. Small bowel lesions are described less often.³ The pathologic features of the cecal lesions were described by Mitsudo et al, who employed injection and corrosion techniques to demonstrate conglomerations of abnormally distended submucosal and mucosal veins.⁴

Conservative resection of small bowel lesions has become possible with the aid of intraoperative Doppler ultrasonography,⁵ mesenteric venous pO₂ measurements⁶ and selective injections of vital

Abstract

Vascular ectasia is a well-established cause of obscure gastrointestinal hemorrhage. The primary method of diagnosis is mesenteric arteriography, which demonstrates a pattern of blush or intraluminal extravasation, early venous filling and microvascular distention. The most common location for this lesion is the cecum although small bowel lesions also are recognized. The following is a case of vascular ectasia affecting the jejunum, in which undescribed microphleboliths were found on microscopic examination.

dyes through preoperatively placed catheters.⁷

In this report, we described hyaline phlebosclerosis and microphleboliths present in the segments of jejunum containing vascular ectasia whose localization was guided by specimen arteriography.

A case report

A 50-year-old white man was admitted to Indiana University Hospital following an episode of rectal bleeding. Although he had a 20-year history of such bleeding, the frequency of the episodes and the quantity of the bleeding were increasing. He required two other hospitalizations within the same year for bleeding significant enough to require transfusion.

Past examinations demonstrated a normal barium enema, a normal

colonoscopy and a non-diagnostic tagged red blood cell scan. An upper gastrointestinal series reported only questionable duodenitis. A mesenteric arteriogram from an outside hospital was normal

The physical examination was remarkable only for mild epigastric tenderness and guaiac positive stool. A repeat arteriogram demonstrated an early filling, enlarged proximal jejunal vein and puddling of contrast medium within the bowel lumen. A repeat, tagged red blood cell scan showed active gastrointestinal bleeding. Arteriography revealed the involved area to be supplied by the first three jejunal branches.

At the time of surgery, mesenteric vessels of the proximal jejunum were noted to be larger than those downstream. Intraoperative

Doppler and venous pO₂ sampling of these veins demonstrated high flow of hyperoxygenated venous blood consistent with shunting. Forty centimeters of bowel were resected with immediate injection of colloidal barium sulfate through three jejunal arteries. A series of arteriograms showed two areas of blushing within the wall (Figure 1). Some barium was extravasated into the mesentery during the injection and appears as artifact on the films.

The patient did well until the sixth postoperative day, when a modest amount of blood was passed per rectum. Rigid sigmoidoscopy showed some bleeding internal hemorrhoids, which were subsequently coagulated. The patient has not experienced bleeding for a follow-up period of six months.

Pathology

The resected intestine was opened along the antimesenteric

border. No gross abnormality was noted on the mucosa of the jejunum, despite a thorough examination under a dissecting microscope. A radiographically abnormal segment was cut serially at 0.5 cm sections, and 10 representative slides were submitted for microscopic examination. Selective slides were stained with trichrome and elastic stains, in addition to hematoxylin-eosin stain.

The presence of abundant, dilated veins in localized areas of the submucosa was the most notable finding. Some of the small veins contained round, concentrically laminated nodules (*Figure* 2). These hyaline nodules had variable shades of basophilia, consistent with early calcification.

Discussion

Mitsudo and associates demonstrated, by injection of a silicone rubber compound and clearing method, marked dilatation of submucosal veins, venules and

capillaries as the most consistent pathologic feature of intestinal vascular ectasia.⁴ They suggested that the vascular ectasia is an acquired lesion, distinct from vascular tumors and congenital arteriovenous malformation.

Although the pathogenesis of the intestinal vascular ectasia remains uncertain, Boley et al postulate that the veins piercing the muscular layer may become intermittently obstructed, causing elevated pressure and eventual dilation and tortuosity of the mucosal and submucosal veins.⁸ High pressure in the venous channels eventually may cause phlebosclerosis.

The microphleboliths in this case may have resulted from organization of venous thrombi or sclerotic changes of the venous wall. We did not find recent thrombi in our case. However, Suit and her colleague found small fibrin thrombi in all nine biopsy specimens from seven patients with vascular ectasia involv-

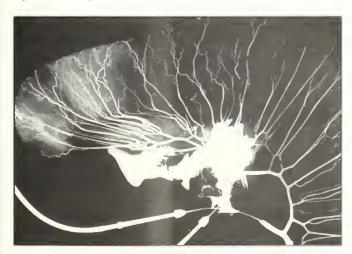


Figure 1: A specimen arteriogram showing areas with blushing and puddling of the contrast medium.

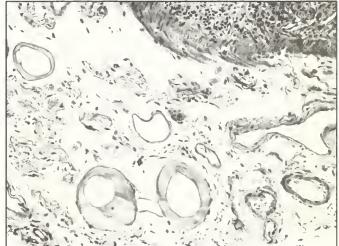


Figure 2: Distended submucosal veins and venules, two of which show laminated hyaline material in the lumen. (H & E: x 550).

ing the stomach.9

Patients with intestinal vascular ectasia have remarkably similar medical histories, including fruitless searches for the cause of the lower intestinal bleeding by endoscopic and barium studies. Most have histories of multiple transfusions and many, especially before the widespread use of preoperative mesenteric angiography, had multiple negative laparotomies with blind bowel or gastric resection. Now angiography demonstrates operable lesions not identifiable by endoscopic and routine x-ray studies.

An arteriogram of the resected specimen using contrast material is the most valuable technique in localizing the grossly inconspicuous lesions for the pathologist. In our case, phlebosclerosis and microphleboliths in submucosal veins, in addition to the previously described vascular ectasia, were found. Further examination of more such cases will reveal whether these histological lesions are of any additional diagnostic value.

This case illustrates the need for teamwork among surgeons, radiologists and pathologists in the management of patients with intestinal bleeding of an obscure origin. Teamwork may lead to uncovering further pathologic alterations that may be diagnostically useful.

Dr. Fenner is a general surgery resident at the Southern Illinois University School of Medicine in Springfield, Ill. Drs. Yum and Strayer are with the Department of Pathology at the Indiana University School of Medicine in Indianapolis. Dr. Madura is with the Department of Surgery at the Indiana University School of Medicine in Indianapolis.

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Indiana State Medical Association

1989 Annual Meeting

Friday, Oct. 27 Saturday, Oct. 28 Sunday, Oct. 29

Westin Hotel Indianapolis

- * House of Delegates
- * Reference Committees
- * Medical Section Meetings
- * General Education Session
- * President's Night Dinner and Entertainment
- * Hawaiian Luau

Abridged schedule of convention events

Thursday, Oct. 26 6 - 7 p.m. Board of Trustees reception 7:30 - 9 p.m. Board of Trustees dinner
Friday, Oct. 27 7:30 - 9 a.m

Saturday, Oct. 28
8 - 10 a.mBoard of Trustees breakfast
meeting
8 a.mMedical section meetings begin
Noon - 2 p.mIMPAC luncheon
1 - 2 p.mFifty Year Club program
2:30 - 4:30 p.mGeneral education session
6 - 7 p.mPresident's Night reception
7 - 10 p.mPresident's Night dinner/dance
10 p.m midnightFirst District Afterglow
Sunday, Oct. 29
8 - 9 a.mBoard of Trustees breakfast
meeting
9 a.m noonHouse of Delegates, final session
Noon - 1:30 p.m Trustees organizational and
Executive Committee meeting

Westin Hotel hosts meeting

The 572-room Westin Hotel in downtown Indianapolis will be the site of the 1989 ISMA annual meeting.

The hotel, which opened in September 1988, is located between the State Capitol building and the Hoosier Dome/Indiana Convention Center complex. Union Station, the Indianapolis Zoo and the Eiteljorg Museum of American Indian and Western Art also are nearby.

Guest services include Graffiti's, a bistro-style restaurant for casual dining; Filibuster, a lounge; 24-hour room service; an indoor swimming pool; a gift and sundries shop; an airline and rental car desk; and valet underground parking. The hotel has 39,000 square feet of meeting and banquet space, including a 17,000-square-foot ballroom.

Official call

The House of Delegates of the Indiana State Medical Association will convene at 9 a.m., EST, Friday, Oct. 27, 1989, in Grand Ballroom 5 of the Westin Hotel.

The House will reconvene for its second (final) session at 9 a.m., EST, Sunday, Oct. 29, 1989, in Grand Ballrooms 1-4.

Representation in the House for the 1989 annual meeting will be as follows:

Marion County – 37 delegates Lake County – 14 delegates Allen County – 10 delegates Vanderburgh County – 8 delegates

St. Joseph County – 7 delegates Delaware-Blackford, Owen-Monroe and Tippecanoe counties – 4 delegates each Bartholomew-Brown, Elkhart, LaPorte, Madison, Porter, Vigo and Wayne-Union counties – 3 delegates each

Clark, Daviess-Martin, Dearborn-Ohio, Fayette-Franklin, Floyd, Fountain-Warren, Grant, Harrison-Crawford, Howard, Jefferson-Switzerland and Parke-Vermillion counties – 2 delegates each

The remaining 55 Indiana county medical societies – 1 delegate each

Trustees – 15 Past presidents – 17 Resident Medical Society – 5 delegates

Student Medical Society – 1 delegate

Total delegates – 224. ☐

Specialty section meetings scheduled throughout convention

Deveral ISMA specialty sections have scheduled meetings during the annual convention. All meetings will be at the Westin Hotel.

The Association of Indiana Directors of Medical Education will focus on "Physician Remedial Education" when it meets from 11:30 a.m. to 1:30 p.m. Friday, Oct. 27, in the caucus meeting room. Richard Pierson, M.D., of Columbia University will discuss results of the Planning Conference on Focused/Prescribed/Remedial Education for Clinical Competence, a national meeting held earlier this year. Dr. Pierson, who organized the conference, also will discuss the overall remedial education program from a national perspective.

Edward Kowaleski, M.D., chairman of the Department of Family Medicine at the University of Maryland, will speak on the statewide remedial education program for physicians. Other speakers will be Glenn J. Bingle, M.D., chairman of the ISMA Subcommission on Physician Remedial Education, and Stephen Jay, M.D., a member of the subcommission.

"What is Interstitial Cystitis?" is

the program topic for the Section on Urology, which will meet from 8:30 a.m. to noon Saturday, Oct. 28, in the council meeting room. The program is designed to educate physicians about a disease that is an inflammation of the bladder, has no known origin or cure and primarily affects women. Speakers will include Jody Krieger and Jody Obear, R.N., representing the Indiana Chapter of the Interstitial Cystitis Association; Brian Copley, M.D., chairman of the Medical Advisory Board, National Kidney Foundation of Indiana; Jean Rose and Bill Kight, interstitial cystitis patients; and Phillip G. Mosbaugh, M.D., and William E. Chapman, M.D., urolo-

The Indiana Society of Physical Medicine and Rehabilitation will meet from 9 a.m. to noon in the Senate 3 meeting room. Stephen Ribaudo, M.D., and Robert Silbert, M.D., will speak on "Health Management of the Worker's Compen-

sation Patient."

"Medicare - An Insight to Concurrent Care" is the topic of the Indiana Society of Internal Medicine program, set for Saturday, Oct. 28, from 9 a.m. to 11 a.m. in the Capitol 3 meeting room.

Speakers will include Adrian Oleck, M.D., Medicare medical director, Indianapolis; Steve Crickmore, executive director, Medicare Part B, Indianapolis; M. Boyd Shook, M.D., trustee, American Society of Internal Medicine, Oklahoma City, Okla.; and Tina Dillard, ISMA Medicare reimbursement coordinator. Physicians will have an opportunity to discuss other Medicare concerns.

The Section on Preventive Medicine and Public Health will focus on "Children with Special Health Care Needs" when it meets from 9:30 a.m. to noon Saturday, Oct. 28, in the chamber meeting room. Speakers will be Thomas A. Gootee, M.D., president of the Indiana Association of Public Health Physicians, and Woodrow A. Myers, M.D., Indiana health commissioner.

The Indianapolis Neurosurgical Society, the Roentgen Society and the Indiana Academy of Family Practice will hold meetings the morning of Saturday, Oct. 28. The Section on Otolaryngology will meet from 2 p.m. to 4 p.m. Sunday, Oct. 29. These groups have planned no special programs.

President's Night dinner and entertainment

 Γ red W. Dahling, M.D., will conclude his year as ISMA president with the annual President's Night events Saturday, Oct. 28.

The evening will begin with a reception from 6 p.m. to 7 p.m. in the Senate Chamber. Dinner and

entertainment will follow from 7 p.m. to 10 p.m. in the Capitol Ballroom. Small Talk will provide music during dinner.

The Fabulous Starlettes, comprised of Indianapolis vocalists and sisters Mary, Julie and Zanna Mitchell and a five-piece band,

will entertain after dinner. Their repertoire of music includes songs from the 1930s to the present. The Starlettes have performed at many Indianapolis night clubs, special events such as the Penrod Arts Fair, wedding receptions, proms and parties.

IMPAC luncheon will feature Sen. Dan Coats



U.S. Sen. Dan Coats, R-Ind., will speak at the IMPAC luncheon, Saturday, Oct. 28. The luncheon,

from noon to 2 p.m. in Grand Ballroom 5 at the Westin Hotel, will provide physicians and spouses an opportunity to hear Indiana's newest U.S. senator.

Coats was selected by former Gov. Robert Orr to fulfill the un-

expired term of Vice President Dan Quayle in the U.S. Senate in December 1988. Before his Senate appointment, he had served eight years in the U.S. House of Representatives.

As the Republican leader of the House Select Committee on Children, Youth and Families, Coats was recognized as a leading authority on the problems facing children and families. Coats will continue his work on behalf of America's families as the Republican leader of the Labor and Hu-

man Resources Subcommittee on Children, Family, Drugs and Alcohol. He also will serve as a member of the Senate Armed Services Committee.

Coats graduated from Wheaton College with a political science degree. After serving two years in the U.S. Army, he enrolled in the Indiana University School of Law, where he graduated with honors.

He and his wife, Marcia, maintain their residence in Fort Wayne and have three children.

Commercial exhibitors of the 1989 ISMA annual convention

Computer companies

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Versacom

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Dimensions, Inc./Master Construction Management, Inc. Fairbanks Hospital Research and Training Institute GTE Cellular Communications

Get the Facts Seminars

Indiana Academy of Family Physicians

Indiana Heart Institute

Indiana Medical History Museum

Indiana Chapter, Interstitial Cystitis Association

Medi-Span, İnc.

Medical Administration Publications

Methodist Hospital Tissue Bank

Sentinel Medical Review Organization

Technical Resource Group, Inc.

Wabash Medical Resources, Inc.

Reception features Hawaiian luau theme

Guests at the convention's theme reception will find themselves at a Hawaiian luau.

The theme reception, held for the first time at last year's convention, is set for Friday, Oct. 27, from 5 p.m. to 7 p.m. in Grand Ballroom 5 of the Westin Hotel. All those attending the convention are invited to the reception.

Three hula girls will greet guests, who will receive a tradi-

tional Hawaiian lei at the entrance. Palm trees and brightly colored flowers will decorate the room. A kahuna in a tiki hut will serve Hawaiian cuisine and exotic drinks. The Three Wahinis will perform hula dances, and a disc jockey will provide Hawaiian background music.

Participating exhibitors will be stationed at banquet tables throughout the room, giving them time to discuss products and services with interested physicians. The exhibit hall will be open during the reception.

Sponsors of the event include Advanced Medical Information Systems, Bell Atlantic-TriCon Leasing, Blue Cross/Blue Shield of Indiana, Crocker Fels Co., Dimensions, Inc./ Master Construction Management, Inc., George S. Olive & Co., The Medical Protective Co., and Physicians Insurance Co. of Indiana.

Spouses will tour Ruth Lilly Center

A dolescent health will be the focus of the convention spouse program, scheduled for 9:30 a.m. to 11:30 a.m. Saturday, Oct. 28, at the new Ruth Lilly Center for Health Education. Trolleys will leave the Westin Hotel at 9 a.m. and return in time for the noon IMPAC luncheon.

Coffee, assorted pastries and fresh fruit will be served upon arrival at the center.

Programs at the center are designed to inspire and to build appreciation for the human body, the mind and the spirit. Theater presentations, sophisticated exhibits, working models and audiovisual productions provide information on nutritional awareness, physical fitness, personal health and prevention of drug abuse.

During the tour of the building, center instructors will conduct a classroom session.

Lura Stone, ISMA Auxiliary president, will report on auxiliary activities before the group returns to the Westin. \beth

'Dr. Campbell' to address education session

Conner Prairie interpreter Eddie Grogan will play the role of Dr. George Washington Campbell during the convention's general education session at the Indiana Medical History Museum.

The general education session will be held from 2:30 p.m. to 4:30 p.m. Saturday, Oct. 28. Trolleys will leave the Westin Hotel starting at 2 p.m. and will return by 5 p.m.

Grogan, who was Interpreter of the Year at Conner Prairie in 1988, has been an interpreter for five years. In addition to portraying Dr. Campbell, Grogan plays the parts of the storekeeper, the town n'er-do-well, a traveling dance master, an itinerant artist, an Irish canalworker and a schoolmaster.

Dr. Campbell, a 19th century physician, helped found the fictional Prairietown. A graduate of Transylvania University in Lexington, Ky., he scoffs at the Thomsonian medicine practiced by his neighbor Mr. Fenton. Instead, Dr. Campbell practices homeopathic medicine.



Eddie Grogan as Dr. Campbell.

Dr. Campbell is one of many "residents" of Conner Prairie, a "living history" village located in Noblesville, northeast of Indianapolis.

The general education session will include a tour of the Medical History Museum and remarks by Katherine McDonell, museum curator.

AMA president to speak to ISMA House of Delegates

A lan R. Nelson, M.D., president of the American Medical Association, will speak at the first session of the House of Delegates, which will convene at 9 a.m. in Grand Ballroom 5 of the Westin Hotel.

Dr. Nelson, a private practitioner of internal medicine and endocrinology in Salt Lake City, Utah, became AMA president in June of this year. He was elected a trustee in 1980 and from 1986 to 1988 was chairman of the AMA board of trustees.

Before service on the board, Dr. Nelson was a member of the AMA's Council on Legislation and president of the Utah Medical Association. He was chairman of various committees of the American Society of Internal Medicine,



Alan Nelson, M.D.

which presented him the Recognition Award in 1973.

In 1972 he was named Young Internist of the Year by the Utah Society of Internal Medicine.

Dr. Nelson is a graduate of Northwestern University School of Medicine. He is a fellow of the American College of Physicians, a member of the Endocrine Society and a clinical professor of medicine at the University of Utah School of Medicine. He has been involved in medical peer review and quality assurance.

Dr. Nelson has been an AMA spokesman at congressional hearings on various health-related issues and represented the AMA at hearings of the President's AIDS Commission and the U.S. Food and Drug Administration.



Fred W. Dahling, M.D.

President Indiana State Medical Association 1988-1989

Presidents of ISMA since its organization

Medical Convention	Elected	Served	*Joseph Rilus Eastman, Indianapolis	191-	(918
*Livingston Dunlap, Indianapolis	1849	1849	*William II Stemm, North Vernon	1918	1919
M 1' 1 C ' .			*Charles 11 McCully, Logansport .	1919	1920
Medical Society	Elected	Served	*David Ross, Indianapolis *William R. Davidson, Evansville	920	1921
*William T.S. Cornett, Versailles	1849	1850	*Charles 11 Good, Huntington	1921 1922	1922
*Ashahel Clapp, New Albany	1850	1851	*Samuel E. Earp, Indianapolis	1923	1923 1924
*George W. Mears, Indianapolis . *Jeremiah H. Brower, Lawrenceburg	1851	1852	*Eldridge M. Shanklin, Hammond	1924	1925
*Elizur H. Deming, Lafayette	1852 1853	1853		1767	17
*Madison J. Bray, Evansville	1854	1854 1855	Medical Association	Elected	Served
*William Lomax, Marion .	1855	1856	*Charles N. Combs, Terre Haute	1925	1426
*Daniel Meeker, LaPorte	1856	1857	*Frank W. Cregor, Indianapolis	1926	1927
*Talbot Bullard, Indianapolis	1857	1858	*George R. Daniels, Marion	1926	1928
*Nathan Johnson, Cambridge City	1858	1859	'Charles E. Gillespie, Seymour	1927	1929
*David Hutchinson, Mooresville	1859	1860	*Angus C. McDonald, Warsaw	1928	1930
*Benjamin S Woodworth, Fort Wayne.	1860	1861	*Alois B. Graham, Indianapolis	1454	1931
*Theophilus Parvin, Indianapolis	1861	1862	*Franklin S Crockett, Lafavette	[430]	1932
*James F Hibberd, Richmond	1862	1863	*Joseph 11 Weinstein, Terre Haute	1931	1933
*John Sloan, New Albany *John Motfett (acting), Rushville	1863	-	*Everett E. Padgett, Indianapolis	1932	1934
*Samuel L. Linton, Columbus	1863 1864	1864	*Walter J. Leach, New Albany *Roscoe L. Sensenich, South Bend	1933	1935
*Wilson Lockhart (acting), Danville	1864	1865	*Edmund D. Clark, Indianapolis	1935	1936
*Myron H. Harding, Lawrenceburg	1865	1866	*Herman M. Baker, Evansville	1936	1938
*Vierling Kersey, Richmond	1866	1867	*Edmund M. Van Buskirk, Fort Wayne	1937	
*John S. Bobbs, Indianapolis	1867	1868	*Karl R Ruddell, Indianapolis	1938	1940
*Nathaniel Field, Jeffersonville	1868	1869	*Albert M. Mitchell, Terre Haute	1939	1941
*George Sutton, Aurora	1869	1870	*Maynard A. Austin, Anderson	1940	1942
*Robert N. Todd, Indianapolis	1870	1871	*Carl H. McCaskey, Indianapolis	1941	
*Henry P. Ayres, Fort Wayne.	1871	1872	*Jacob T. Oliphant, Farmersburg	1942	1944
*Joel Pennington, Milton	1872	1873	*Nelson K. Forster, Hammond .	1943	1945
*Isaac Casselberry, Evansville	1873	_	*Jesse E Ferrell, Fortville	1944	1946
*Wilson Hobbs (acting), Knightstown *Richard E. Houghton, Richmond		1874	*Flovd T. Romberger, Lafayette *Cleon A. Nafe, Indianapolis	1945	1947
*John H. Helm, Peru	1874 1875	1875	*Augustus P. Hauss, New Albany	1946 1947	1948
*Samuel S Bovd, Dublin	1876	1876 1877	*C.S. Black, Warren	1448	1949
*Luther D Waterman, Indianapolis	1877	1878	*Alfred Ellison, South Bend	1949	[95]
*Louis Humphreys, South Bend	1878	-	*J. William Wright, Indianapolis	1950	1452
*Benjamin Newland (acting), Bedford (v.p.)		1879	*Paul D. Crimm, Evansville	1951	
*Jacob R. Weist, Richmond	1879	1880	*William Harry Howard, Hammond	1952	1054
*Thomas B. Harvey, Indianapolis .	1880	1881	*Walter L. Portteus, Franklin	1953	1955
*Marshall Sexton, Rushville	1881	1882	*Walter U. Kennedy, New Castle	1954	1956
*William H. Bell, Logansport	1882	1883	*Elton R Clarke, Kokomo	1455	957
*Samuel E Mumford, Princeton	1883	1884	M C Topping, Terre Haute	1956	1058
*James H Woodburn, Indianapolis	1884	1885	*Kenneth L. Olson, South Bend	1957	1959
*James S. Gregg, Eort Wayne	1885	1886	*Earl W. Mericle, Indianapolis *Guy A. Owsley, Hartford City	1958 1959	1960
*Samuel H. Charlton, Seymour	1886 1887	1887	*Harry R. Stimson, Gary	1960	1961
*William H. Wishard, Indianapolis	1888	1888 1889	*Maurice E. Glock, Fort Wayne	1961	1962 1963
*James D. Gatch, Lawrenceburg	1889	1890	*Donald E. Wood, Indianapolis	1962	1964
*Gonsolvo C. Smythe, Greencastle .	1890	1891	Joseph M. Black, Seymour	1963	1965
*Edwin Walker, Évansville	1891	1892	*Kenneth O. Neumann, Latayette	1964	1966
*George E. Beasley, Lafayette	1892	1893	*Eugene S. Rifner, Van Buren	1965	1967
*Charles A. Daugherty, South Bend	1893	1894	*G O Larson, LaPorte	1900	1968
*Elijah S. Elder, Indianapolis	1894	-	Patrick J. V. Corcoran, Evansville	1967	1964
*Charles S. Bond (acting), Indianapolis	1894	1895	Lowell H Steen, Hammond	1968	
*Miles F. Porter, Fort Wayne	1895	1896	Malcolm O. Scamahorn, Pittsboro	1969	
*James H. Ford, Wabash	1896	1897	Peter R. Petrich, Attica	1970	1972
*William N. Wishard, Indianapolis *John C. Sexton, Rushville	1897	1898	*James H. Gosman, Indianapolis Joe Dukes, Dugger	1971 972	1973
*Walker Schell, Terre Haute	1898 1899	1899 1900	Gilbert M. Wilheimus, Evansville	1973	10.2
*George W. McCaskey, Fort Wayne	1900	1901	Vincent J. Santare, Munster	1974	TITTE
*Alembert W. Brayton, Indianapolis	1901	1902	*John W. Beeler, Indianapolis	1975	
*John B. Berteling, South Bend	1902	1903	*Eli Goodman, Charlestown	976	11178
*Jonas Stewart, Anderson	1903	1904	*James A. Harshman, Kokomo .	19***	10-4
*George T. MacCoy, Columbus	1904	1905	*Arvine G. Popplewell, Indianapolis	1978	1979-80
*George H. Grant, Richmond	1905	1906	Alvin J. Haley, Carmel .	1979	1981
*George J. Cook, Indianapolis	1906	1907	Martin J. O'Neill, Valparaiso	1980	1982
*David C. Peyton, Jettersonville	1907	1908	John A. Knote, Lafayette	1981	1983
*George D. Kahlo, French Lick	1908	1909	George T. Lukemeyer, Indianapolis	1982	1984
*Thomas C. Kennedy, Shelbyville	1909	1910	Lawrence E. Allen, Anderson Paul Siebenmorgen, Terre Haute	1983	1985
*Erederick C. Heath, Indianapolis *William F. Howat, Hammond		1911	Shirley Thompson Khalouf, Marion	1984 1985	1986
*A C. Kimberlin, Indianapolis	1911 1912	1912	John D. MacDougall, Beech Grove	1985	1987 1988
*John P. Salb, Jasper	. 1913	1913 1914	Fred W. Dahling, New Haven	1900	1989
*Frank B. Wynn, Indianapolis	1914	1915	Cr.	1 /(1/	(-(4 7
*George F Keiper, Lafayette	1915	1916			
*John H. Oliver, Indianapolis	1916	1917	*Deceased		

ISMA trustee districts



EXECUTIVE COMMITTEE Fred W. Dahling, M.D., chairman

The Indiana State Medical Association Executive Committee met six times this year to discuss obligatory and assigned business and to help form association policy. The following are selected highlights of the committee's deliberations and actions:

Budgetary and fiscal

At each meeting, the Executive Committee monitored the budget, actual fund balances and the cash flow of the association. Only rarely were changes mandated that would require a reallocation of funds. The association is in sound financial condition and we expect to have a net surplus at the end of the financial year if present trends continue.

The problem of paying our debts in a timely manner was partially solved by changing the policy on the check signature. The Executive Committee increased the check amount to \$2,000 for which dual signatory would be required on all ISMA and related accounts.

The auxiliary's reimbursement of funding by the ISMA has been hard to keep track of at times. To better document where the ISMA's monies to the auxiliary are being spent and to make certain the auxiliary reimburses the ISMA for certain services provided, a contract establishing mutually provided services was approved and submitted for negotiation

The Executive Committee reviewed the AMA delegation stipend and offered a policy change to the Board of Trustees to allow newly elected AMA delegates/alternates to receive the stipend beginning with the AMA interim

meeting following their election. The change was approved. The Executive Committee also reviewed the stipend for resident/medical student society representatives to AMA meetings and recommended that we maintain fair and equitable reimbursement for the representatives of the two organizations. This will be considered by the board.

The Executive Committee budgeted for the successful campaign for membership on the AMA Council on Medical Education, George T. Lukemeyer, M.D. The Executive Committee submitted a budget for John Knote's, M.D., approaching campaign for membership on the AMA Council on Medical Services.

Executive director evaluation

It has been left to the discretion of the Executive Committee to evaluate the executive director's performance and set his salary. In the past, this has been handled in executive session at one of the meetings. To conform with newer and more accepted management procedures, this process was changed to a two-step format. The president, president-elect and the chairman of the board actually sat down with the executive director and frankly discussed his job performance and total financial package. The recommendations of the three officers were presented to the remaining committee members during the executive session of a later committee meeting. The entire Executive Committee then had the chance to accept, reject or modify the recommendations of the interviewing officers. The new procedure facilitates more open communication between the committee and the executive director concerning job expectations and performance.

We are very pleased with Mr. King's job performance, and he is willing to work with the terms of his financial package.

ISMA office space

The association made better use of office space by remodeling and redecorating almost three years ago. An increase in the number of staff, anticipated association reorganization, the possible sharing of staff and location with our captive insurance company, plus some recent breakdowns in mechanical systems at the present headquarters site, have raised discussions of a new or revamped location for our association office. Five thousand dollars from discretionary funds were appropriated to study the feasibility of expanding or relocating the ISMA office site. A recommendation should be made soon to the Board of Trustees.

Corporate aircraft

For the past several years, the ISMA has maintained a corporate aircraft to help ISMA officers and staff more efficiently carry out their responsibilities. The aircraft has provided some needed nondues revenue to the association while helping to contain travel costs. A large maintenance cost involving the replacement of the present aircraft's power units was expected soon and the chance for upgrading our aircraft at the price of engine replacement presented itself. After investigation and proper consultation, the Executive Committee authorized the staff to trade in our present aircraft and spend up to \$75,000 for the purchase of a Mitsubishi MU-2 aircraft and the necessary training for our in-house pilot. This upgrade will not increase maintenance on a cost-per-mile-flown

basis and will put off large maintenance costs for the foreseeable future.

The ISMA roster

The Executive Committee authorized a change in the annual roster published by the ISMA for its membership. The binder-type roster has larger print and should be easier to handle and to read. In addition to the changed format of the roster, the Executive Committee approved an increase in the advertising space allotment in the new roster to help defray publishing costs and an increase in the non-member roster price to \$40 and the member price to \$20.

Joint meetings with the Executive Committee of the Indiana Hospital Association (IHA)

The executive committees of the ISMA and the IHA held two joint meetings to discuss quality of care issues and their effects on the medical profession, and other topics of mutual interest. In November, the ISMA sponsored John Thomas Kelly, M.D., newly appointed director of AMA Quality Control, to be the principal speaker. In April, IHA sponsored William D. Fifer, M.D., president of Clayton-Fifer Associates.

Medical liability

The Executive Committee was actively concerned about and involved in the enactment of HB 1777, a consensus bill that increased the Patient Compensation Fund (PCF) liability limit from \$500,000 to \$750,000. All through the lobbying and negotiating process with the Indiana Trial Lawyers Association (ITLA) in the Indiana General Assembly concerning medical liability issues, the Executive Committee was kept abreast of all developments. At

one stage, the committee approved a letter of intent by the ISMA, IHA, ITLA and the principal medical liability insurance carriers in the state. The letter, which stated an intent to conduct a five-month study to determine an appropriate liability limit level, ultimately failed to be negotiated by all the parties. This failure resulted in the consensus bill stating that in addition to raising the PCF liability limits, there can be no more legislative activity on medical liability over the next few vears.

I want to thank the Executive Committee members who gave their time, participated in the deliberations and thoroughly evaluated the many problems presented to them for consideration. I especially want to thank our executive director, Rick King, and his staff for their research and consultive endeavors, which aided and simplified the work of the committee.

BOARD OF TRUSTEES William C. Van Ness II, M.D., chairman

The Board continued to face a number of ongoing problems. One problem was preserving the integrity of our malpractice act. Extensive negotiations ended with us agreeing to an increase in the malpractice cap to \$750,000 but preserving the act in the process. We continue to battle non-physician providers who want to provide more care than they do now, care that is currently being provided by physicians only. Government and third-party payors continue to try to dictate the way that we should practice medicine, and, unfortunately, they seem to be more concerned with cost than quality. Our most recent battle

has been over expenditure targets through which the government wants us to ration health care to our senior citizens.

Throughout the year, Dr. Dahling has given excellent presentations about the ISMA's accomplishments and activities. I, on the other hand, have attempted to point out what each of us can do to help the ISMA and ourselves. In the following paragraphs I would like to reiterate these points:

- 1. Participate in organized medicine at all levels county, district, state and, if possible, national. Ours is a volunteer organization led by people in the active, full-time delivery of health care. The more people who volunteer and actively participate, the less work there is for each volunteer;
- Participate in the legislative process. You can do this several ways:
 - a. Know your local, state and national legislators. Participate in their campaigns as a volunteer and above all, contribute financially to their campaign. When possible, put that donation in their hands personally;
 - b. Become a Key Contact physician or spouse. Each year we send a card to each ISMA member asking you to fill in names of legislators with whom you have personal contact. When a significant piece of legislation is being considered, you will be contacted and asked to discuss that legislation with the appropriate people on your list; and

c. Tithe. Give of yourself to your community. Many people have a tendency to make physicians bigger than life. They need to know we are highly trained and skilled individuals who are fellow human beings who face many of the same problems they do everyday. Give at least 5% of your time to community activities such as serving on the school board, as a Little League or soccer coach, etc. This helps develop new friends, and medicine is always in need of friends.

I hope you will find things in this report to help you with the future challenges we all will face. We must act together, for as individuals we surely will fail. In closing, I must praise and commend the board members with whom I have worked closely this year. They are a concerned and dedicated group who do not hesitate to face and deal with difficult problems.

EXECUTIVE DIRECTOR Richard R. King

1988-89 has presented the ISMA with numerous opportunities and challenges. The Board of Trustees approved utilization of a management consultant, Francis Edwards, Ph.D., of Louis Allen and Associates, to review the corporate organization, objectives and activities. In late August, the Board reviewed the Louis Allen management system and authorized engagement of Mr. Edwards. The leadership and management of the ISMA attended an intensive three-day managerial seminar in

January in preparation of an overall management plan. During the course of his engagement, Mr. Edwards conducted focus group interviews and a management analysis and will present recommendations to the Board later this year. Primarily the report will focus on the association's member communications and educational activities and establish a longrange blueprint for Indiana medicine in the next century.

ISMA leadership and management are optimistic in establishing a plan that is responsible to the needs of Indiana physicians as patient advocates. The ISMA will strive to create a practice environment that optimizes physician autonomy and balances the competent, compassionate delivery of physician services.

ISMA membership continues to grow and is currently more than 7,000 members. We believe our services are fulfilling the needs of the membership. The relationship established in 1982 with Physicians Insurance Co. of Indiana (PICI) is mutually advantageous. The company's successful loss awareness seminars are beneficial to the medical practices of all members. PICI's Board of Directors and committees all have majority physician input into underwriting of claims and marketing decisions. We are very proud of the continued growth of PICI and look forward to future opportunities to provide additional services to our membership.

The association's sponsored health insurance program has grown to approximately 5,000 insureds. We are pleased to offer the widest availability of options for coverage at very competitive rates. The Board of Trustees recently approved extensive organ transplantation coverage, giving

our members an unsurpassed plan for catastrophic medical problems.

On the national scene, the association participated in the debate regarding reform of the usual, customary and reasonable reimbursement methodology. Congress appears to be moving toward the adoption of the Resource Based Relative Value Scale (RBRVS). The impact on Indiana physicians will not be known until the reform is implemented. The association expressed its concern to the Indiana congressional delegation that the fee schedule become a physician-driven government-imposed rationing of patient services as proposed under the expenditure targets currently being debated in Congress.

Medicare reimbursement problems presented numerous opportunities for service to the ISMA members. In response to a House of Delegates' resolution, the Board and Executive Committee recommended a study of the issue. Mike Heaton, CPA, of Kimmerling Myers & Co., produced a scientific questionnaire and analysis of the problem. In his report, it was apparent that all parties shared some responsibility for the various aspects of reimbursement difficulties. To implement the recommendation, the ISMA has conducted periodic meetings, open to the membership, with the fiscal intermediary, hired a reimbursement coordinator to address specific problems and conducted CPT, ICD-9 coding seminars during the past year. The response to the educational effort has been particularly gratifying and will be expanded in future years.

The engagement of a physician recovery coordinator fulfills the direction of the House of Delegates and the statewide need to assist those members experiencing

drug and alcohol addiction. The association continues to struggle with methods of expanding the reach of this program while staying within the fiscal note of the resolution. It is evident that additional volunteer time and funding is needed to create a viable framework for this program to prosper.

The management and staff of the ISMA recommended the Board establish a pilot program to assist those financially eligible Medicare patients with their Medicare bills. The pilot project for the Medicare Assistance Program (MAP) took place in Crawfordsville, Montgomery County, for a period of six months. The project consumed countless hours of volunteer time, management and staff direction and met with mixed results from both the physicians and eligible patients. The association published a "how-to" manual which was distributed to every county in the state.

The experience gained from the pilot project established that a program such as this could not be imposed from the state but needed local leadership from physicians and senior citizen organizations in order to become successful. The Board of Trustees recommended that the association serve as a facilitator in an advisory role to county medical societies interested in starting a MAP program rather than attempting to implement a statewide plan.

The association devoted much of its effort in the legislative and regulatory arena. Notably, under the leadership of George Lukemeyer, M.D., past president and chairman of the Ad Hoc Committee on Professional Liability, the association was successful in limiting to \$750,000 the proposed increase in liability for

medical malpractice which had remained at \$500,000 for 14 years. My thanks go to those members and auxilians who helped defeat the more onerous proposals introduced in the legislature. We remain proud of our accomplishments in 1975 and 1989 in maintaining professional liability rates at one of the lowest-per-dollar of occurrence coverage in the United States. However, we remain ever mindful that reform of the basic system needs to be examined in depth to provide a better system of redress for those injured by tort negligence.

Turning to the arena of regulatory matters, the association played an integral part in the successful creation of more reasonable infectious waste disposal rules and opting out of a very expensive, complex, and in our view, unnecessary federal regulation.

For the future, our emphasis will continue to be in providing a practice environment that allows the greatest amount of autonomy for our members and maintaining our position as patient advocate while supplying high quality medical care to each and every Hoosier.

Finally, one cannot help but recognize the expertise of our ISMA staff. We are committed to serving the needs and requests of our membership on an individualized basis whenever possible.

AMA DELEGATION Marvin E. Priddy, M.D., chairman

Elections during the 1988 ISMA Annual Convention changed the composition of the delegation. Everett Bickers, M.D., Floyds Knobs, chose not to rur. for reelection as a delegate and George

Lukemeyer, M.D., Indianapolis, was elected to fill his position. The alternate delegate vacancy created by Dr. Lukemeyer's move and a contested race provided two new alternate delegates. Max Hoffman, M.D., Covington, and Shirley Khalouf, M.D., Marion, began their two-year terms Jan. 1, 1989. Robert Seibel, M.D., Nashville, ended his tenure on the delegation Dec. 31, 1988. Thanks to Dr. Bickers and Dr. Seibel for their support and participation through the years in representing Indiana in the AMA House of Delegates. I also would like to recognize the other members of the delegation for their active roles:

Delegates

Alvin Haley, M.D. John Knote, M.D. George Lukemeyer, M.D. Pete Petrich, M.D. Tom Tyrrell, M.D.

Alternates

Max Hoffman, M.D. Herbert Khalouf, M.D. Shirley Khalouf, M.D. Ed Langston, M.D. Martin O'Neill, M.D. Richard Reedy, M.D.

Interim meeting

The 1988 Interim Meeting Dec. 4 through 7 in Dallas considered 66 reports and 129 resolutions. The AMA's position on the Resource Based Relative Value Scale (RBRVS) clearly dominated the meeting and commanded the majority of the delegates' time and attention. The following are highlights of the House's actions:

 That the AMA reaffirm its current policy in support of adoption of a fair and equitable Medicare indemnity payment schedule under

which physicians would determine their own fees, and Medicaid would establish its payments for physician services using:

- a. An appropriate RVS based on the resource costs of providing physician services;
- b. An appropriate monetary conversion factor; and
- c. An appropriate set of conversion factor multipliers.
- 2. That the AMA adopt the position that the current Harvard RBRVS study and data (when sufficiently expanded, corrected and refined) would provide an acceptable basis for a Medicare indemnity payment system;
- 3. That the AMA work with Harvard, the national medical specialty societies, the PPRC, the HCFA, other interested and knowledgeable parties and the Congress to refine and modify the Harvard RBRVS to ensure that it is technically adequate and can be implemented in a timely and minimally disruptive manner when needed revisions have been satisfactorily completed;
- That the AMA reaffirm its strong support for physicians' right to decide on a claim-by-claim basis whether or not to accept Medicare assignment and its opposition to elimination of balance billing; and
- 5. That the AMA reaffirm its opposition to the continuation of the Medicare maximum allowable actual charge (MAAC) limits.

 Once again, the Registered Care

Technologists (RCTs) issue was addressed. The House received a progress report on the AMA's proposal to create a new category of bedside caregiver. The Board announced that a pilot program would be implemented to demonstrate and evaluate the training of RCTs. In a related action, the House adopted a resolution, which stressed that in addition to the RCT Program, the AMA should continue to seek solutions to the shortage of bedside caregivers. The resolution also called the AMA to work together with the American Nurses' Association and other nursing organizations to address the nursing shortage. The Board of Trustees was asked to provide a report on the status of the situation at the 1989 Annual Meeting.

Annual meeting

The focus of the AMA Annual Meeting in Chicago June 18 through 22 was the effort to defeat expenditure targets, the administration's new proposal to control health care costs by establishing government-set expenditure goals for total physician services under Medicare Part B. The proposal passed the House Ways and Means Committee in mid-July, but at this writing, the Senate Finance Committee, one of three that has health care financing jurisdiction, has not finished its Medicare budget reconciliation package.

The purpose of expenditure targets is to reduce the amount of physician services the government reimburses. According to the proposal, if physicians exceed the targets set for them by government (i.e., treat too many Medicare patients and use their total allotment of Medicare reimbursement funds), their Medicare reim-

bursement rate is adjusted downward. The debate rests on the issue of government establishing the targets while their main objective is to reduce spending and, thus, the deficit. Unfortunately, there is no way to measure or accurately predict increases in either the demand for health care or the cost of technological progress.

The AMA House of Delegates adopted a resolution dealing with expenditure targets that calls on the AMA to:

- 1. Reaffirm its willingness to participate in efforts to control the cost of Medicare in a manner that preserves the quality and availability of health care to Medicare recipients;
- 2. Reaffirm its position that the Medicare program establish actuarially sound financing of benefits;
- 3. Urge Congress to incorporate the following considerations when applying budgetary controls to Medicare in place of expenditure targets:
 - Assure a high priority to health care for Medicare patients in relation to other programs when allocating general funds;
 - b. Given Medicare's finite resources, develop a mechanism to channel resources to patients with greater financial need and require a proportionately larger financial responsibility by the more affluent toward their own health care; and
- c. Reduce the cost of defensive medicine caused by the present tort system.

 The House also dealt with the

ever-increasing number of uninsured patients. Following exhaustive debate, the House adopted the Board report recommending that the AMA endorse a phased-in requirement for employers (limited initially to larger employers) to provide health insurance for all full-time employees. Coverage would expand over several years and a program of diminishing tax credits or other incentives to avoid adverse effects on employers would be added. The report asked the AMA to determine the best method for small employers to provide insurance for their employees. Finally, the report asks the AMA, in conjunction with other health organizations, to develop a package of basic health benefits.

The House adopted a Council on Medical Service report describing current AMA activities to improve rural health care and remedy geographic physician payment inequities under Medicare. The House asked the AMA to support elimination of most Medicare reimbursement differentials between urban and rural medical care. The House also asked the AMA to inform the Congress of the impact of such differentials on the rural population.

On a controversial topic that caused much debate, the House adopted a substitute resolution asking the AMA to support appropriate legislation to restrict the sale and private ownership of large clip, high-rate-of-fire, automatic and semi-automatic fire-arms.

Some actions by the House reinforcing its strong efforts to achieve a smoke-free society include:

1. Advocating that all American hospitals ban tobacco

- use by Jan. 1, 1991;
- Urging physicians to prohibit smoking and use of tobacco products in their offices;
- 3. Working for legislation and policies to promote a ban on smoking and use of tobacco products in hospitals, heath care institutions and educational institutions (including medical schools);
- 4. Studying methods and developing legislation to limit the access to tobacco products of individuals under 21 years of age; and
- Recognizing and condemning advertisements for cigarettes and other tobacco products targeted toward children, minorities and women.

ISMA Resolution 88-25 (Office Magazines Without Tobacco Ads - a proposal to urge physicians to ban magazines containing tobacco product advertisements from their offices) was introduced to the AMA House as Resolution 13. The House adopted the resolution after substituting the word "tobacco" for "cigarette" throughout the text.

The House elected C. John Tupper, M.D., California, president-elect and re-elected John Clowe, M.D., New York, speaker of the House and Daniel Johnson, Jr., M.D., Louisiana, as vice speaker. I am pleased to report that Indiana's candidate, George Lukemeyer, M.D., was successful in his re-election bid for a second three-year term on the Council on Medical Education.

RESIDENT MEDICAL SOCIETY John H. Fallon, M.D., president

The Resident Medical Society (RMS) continues to be a strong

and active component of the ISMA. Resident members were busy this year dealing with several complex issues including resident work hours, AIDS testing and prenatal care.

The RMS continues to represent the views of physicians in training through several facets of organized medicine in our state. The RMS holds positions on the ISMA's Board of Trustees and the IMPAC board. As usual, we continue to be well represented in the ISMA House of Delegates.

Membership has begun to level off this past year after several years of spectacular growth. Membership in the AMA remained fairly steady at 458 members

As a benefit to residents in Indiana, the RMS continued to sponsor several programs this year. Each summer we welcome the newest residents with an evening titled "Welcome to the Practice of Medicine in Indiana" and this year was no exception. In addition, we arrange an annual Practice Opportunity Fair. This allows residents who have trained in Indiana to contact prospective practices here in the state. This helps ensure that residents who have trained in Indiana stay here. The AMA's "Starting Your Practice" workshop was again presented and was well-attended.

Much recent focus has been directed toward resident work hours. A front-page article in the *Indianapolis Star* reflected the growing public concern this issue has raised. Results of a membership survey conducted by the RMS revealed that the majority of residents in Indiana are satisfied with their hours. By utilizing close communication with the ISMA, we have prevented this topic from becoming a major con-

cern in Indiana.

PHYSICIANS INSURANCE CO. OF INDIANA Dave Duncan, president and CEO

Several factors have led to a successful 1988 and 1989. Total 1988 written malpractice premiums were up 19% over the previous year. During 1988, we wrote policies for more than 458 new physicians, which brought the company to 2,200 physicians insured. So far in 1989, more than 338 new physicians have chosen PICI as their insurer.

Much of the reason for our success is the continuing involvement and support of the Indiana State Medical Association. The ISMA is now the majority stock holder at 36.1% and has plans to buy additional stock during the next five years. This commitment should demonstrate to organized medicine that the ISMA is clearly dedicated to preserving our current malpractice law while ensuring Indiana physicians have a voice in how their malpractice insurer handles liability claims.

Toward the end of 1988 and through 1989, PICI began a series of risk management programs that have been seen by more than 300 physicians and office employees. The programs focus on ways to reduce the chance of being sued. These programs have been successful and several more are planned before the end of the year. Because of our sincere belief in risk management, we intend to set up a risk management department to help us underwrite large groups and individual physicians. Other areas of risk management we will focus on are: record keeping, rapport, non-malignment of colleagues, effective listening,

nurse-physician communication, telephone prescribing and after-hour patient care. We hope the effect will be lower premiums and an awareness of how to reduce the number of incidents of malpractice.

Another factor that had an effect on our success was the market-place change in the first quarter of 1989 when one of our competitors decided to discontinue writing medical professional liability insurance. PICI and its independent agency force has been accepting new applications and will be happy to continue as long as those applicants meet our underwriting guidelines.

As an insurer formed by physicians, PICI feels the responsibility for keeping Indiana physicians informed on matters concerning the medical professional liability situation in our state. A new company called Physicians Insurance Exchange in Cleveland, Ohio, has been granted authority to do business in Indiana. P.I.E. Mutual was formed in 1975 by a group of physicians with assistance from a Cleveland law firm which coincidentally has contracted with P.I.E. to handle all claims and lawsuits on a prepaid basis. The fee is determined by the number and distribution by risk classification of the company's policyholders. In each of its operating states, P.I.E. has a surplus note requirement, which is a condition for issuance of their insurance, which is a "loan" to the company equal to 20% of the first year premium, 20% of the second year premium and 10% of the third year premium. No "loan" can be repaid to the physician without approval from the insurance department, and there is no guarantee that the loan will ever

be paid.

Since the inception of our company in 1982, we have prided ourselves in being a defense-oriented insurer dedicated to the rigorous opposition of unwarranted claims. Our company's approach to claims services is to combine the skills, experience and perspective of an internal staff of claims specialists, a claims committee composed of Indiana physicians and local attorneys who specialize in defendant professional liability legal services and are paid on a fee-for-service basis. PICI's policy specifically states that no claim will be settled, prior to judgment, without the written consent of the insured physician. Additionally, PICI provides every Indiana physician the right to appeal refusal, non-renewal or cancellation of coverage directly to the company's underwriting committee composed of Indiana physicians.

PICI is committed to the open disclosure and discussion of the company's claims experience and operating results. This "open communications" policy is conducted through various publications, appearances by management and staff at state, local and specialty medical society meetings and risk management and loss awareness seminars.

PICI does not intend to expand to other states, but does enjoy a close relationship with physician-owned insurers in Ohio, Kentucky, Michigan, Wisconsin and Florida. We share similar operational and organizational concepts and philosophies.

Inquiries from Indiana physicians about our state's medical professional liability situation, the operations of our company or any related matters are always welcome.

FIRST DISTRICT E. DeVerre Gourieux, M.D., trustee

This is my last report to you as trustee of the First District Medical Society. My congratulations go to Tom Harmon, M.D., who will succeed me. I wish him every success. Tom has before him a challenging and rewarding job as trustee.

To all my First District physicians serving on ISMA commission, let me extend my thanks on behalf of the district for their involvement on the commission level where most decisions are made.

The 1988 ISMA convention was held in Indianapolis in October. It was my pleasure to observe the First District continuing to be active. I sincerely hope that interest and level of involvement continues to grow in this and other districts.

Through the efforts of the ISMA legislative staff, physicians and spouses throughout the state, two separate bills introduced to change the cap were defeated. One bill would have raised it to \$1 million and the other bill would have increased the cap annually in accordance with the Consumer Price Index. Instead, the ISMA, the Indiana Hospital Association and the Indiana Trial Lawyers Association reached a written agreement to raise the cap from \$500,000 to \$750,000. This written agreement provides assurances by these organizations that they will neither introduce nor support any further amendments to the Medical Malpractice Act until at least 1992. This agreement comes on the heels of numerous attempts each year for the past two years by the Indiana Trial Lawyers Association to

amend the act both through reconstruction of the medical review panel process and through changing the statute of limitations from date of occurrence to date of discovery. This agreement, changing only the amount of the cap, came at a time when other states with similar laws saw their laws ruled unconstitutional and also at a time when legislators were beginning to view changes in the act more favorably.

As the practice of medicine comes under yet more and more scrutiny, it is more important than ever that physicians be actively involved in the legislative process.

I have enjoyed tremendously my six years as trustee of the First District. I have met many fine people and will miss each and every one of you. I wish you all the best.

SECOND DISTRICT Paul Wenzler, M.D., trustee

The Second District annual meeting was held May 19 at The Pointe Golf and Tennis Resort in Bloomington. All who participated in the golf outing had an enjoyable time until a cloudburst on the 18th hole surprised and soaked the golfers.

During the business meeting, Jerome Melchior, M.D., was elected alternate trustee, Betty Dukes, M.D., was elected president of the Second District and Steven Dupre, M.D., was elected treasurer.

Fred Dahling, M.D., ISMA president, discussed his activities on behalf of the ISMA. Rick King, ISMA executive director, discussed legislation, specifically addressing the increased cap on malpractice claims.

Auxiliary President Ann Wrenn discussed the well-attended Auxil-

iary State Meeting held at the I.U. Union Building in April. She also spoke of the Medical Auxiliary's increasing role.

George Rawls, M.D., ISMA president-elect, spoke of reducing infant mortality in Indiana through better obstetrical counseling and more available care. Several other physicians contributed to the discussions - Al Haley, M.D., Pete Petrich, M.D., Joe Dukes, M.D., and William Van Ness II, M.D., chairman of the ISMA's Board of Trustees.

The business meeting was concluded with an indoor, country barbeque with music provided by the Ryan Cobine Jazz Combo.

For the ISMA, 1988-89 has been a year of steady and sound growth with no major crisis problems.

Thank you for allowing me to serve the Second District as trustee. I look forward to seeing all of you at the 140th annual meeting Oct. 27-29 in Indianapolis.

THIRD DISTRICT Gordon L. Gutmann, M.D., trustee

The Third District held its annual meeting Saturday, May 13, at the beautiful French Lick Springs resort. Attendance was sparse but discussions were lively. ISMA leadership was well-represented and Dr. Dahling reported on IM-PAC, PICI, the ISMA's increasing membership, the Medicare Assistance Program and several legislative items. Max Hoffman, M.D., reported on the AMA annual meeting, specifically discussing two resolutions Indiana submitted. George Lukemeyer, M.D., put in a plug for the Indiana University School of Medicine and encouraged attendance at I.U. alumni day.

James Jacobi, M.D., conducted the election of district officers. Charles Carty, M.D., was reelected alternate trustee, Richard Gardner, M.D., was elected district president, Monte Hocker, M.D., was elected district secretary and Keven Rogers, M.D., was elected president-elect for the district. Next year's meeting will be in Floyd County on May 9 and an outing at Churchill Downs is planned. I expect attendance to be good.

After the elections, the changes in the medical malpractice laws were discussed at length. District members have a good understanding of why it was prudent for the ISMA to agree to some of

these changes.

During the summer, Tom Neathamer, M.D., undertook instituting the Medicare Assistance Program. As is typical for Tom, he quickly received the approval of the Clark County Medical Society, had a meeting with the representatives of the elderly and obtained newspaper coverage of the program. I expect that Clark County will have the MAP program in place shortly. Surrounding counties have already expressed interest, and Tom will be working with them.

Finally, two resolutions from the Third District were discussed and submitted in revised forms.

FOURTH DISTRICT William E. Cooper, M.D., trustee

The Fourth District Medical Society held its annual meeting May 3, 1989, at the Dearborn Country Club in Lawrenceburg. There was a good turnout and the golfing activities were excellent.

I am pleased to relate that the legislative alert system has been working well. With the addition of the ISMA Auxiliary, we have become a responsive group in matters of state legislation that apply to our interests. Let's keep this valuable response tool sharp and ready.

The Multiple Copy Prescription Program that went into effect July 1 was discussed thoroughly by Adele Lash in the March issue of INDIANA MEDICINE. If you have not received the "free" order forms from the Health Professions Bureau, call them at (317) 232-2960. These blank prescriptions are highly valued by addicts, so keep a close security on their use.

PICI, the Physicians Insurance Company of Indiana, has again mentioned that it is joining the Indiana Insurance Commission in defending the Patients Compensation Fund. By offering statistical help and legal expertise, this cooperation has begun an effort to defend the very lifeblood of our malpractice protection in Indiana. I hope you are aware of this unprecedented coalition and that you can see the merits of it. A great many trial lawyers were upset with its instigation.

The Fourth District Medical Society will meet in May 1990 at the Madison Country Club in

Madison.

I would like to thank Frank Frable, M.D., and Joan Hackett for their respective chairpersonships of the Lawrenceburg outing, and I offer special thanks to Janna Kosinski, our ISMA field representative.

FIFTH DISTRICT Benny S. Ko, M.D., trustee

You win some and you lose some, that's the usual way the legislative process works. But, if we take a careful look at where we won and lost during this past legislative session it becomes immediately clear what a tremendous job the ISMA has done for us again. It should also impress us how intense such political battles have become.

First, Indiana has not become another Massachusetts. Legislation was introduced to require physicians to accept Medicareassigned rate as the full reimbursement for Medicare patients (mandatory assignment): It was not passed. A proposal to restrict physicians from dispensing medications from the offices also did not pass. In a similar light, we have defeated legislation to bring about therapeutic substitution, (seems like so many non-physicians have become so eager to practice medicine these days). We should be proud to see the adoption of the "SOBRA" legislation. Hopefully this ISMA-supported plan will help lower the infant mortality rate in Indiana.

On other fronts, some compromises had to be made. Most notably, the malpractice compensation cap has been raised from \$500,000 to \$750,000. In view of inflation (if nothing else) since 1975, this does not seem to be a totally unreasonable adjustment.

The AMA's PADS II program has been adopted to track prescription drug diversion for all schedules of drugs. PADS II and the current triplicate prescription program will be reviewed by the legislature in 1993. Hopefully, PADS II will be shown as the more effective and cost-saving program of the two.

The tobacco-related bills did not get anywhere. This is unfortunate from the public health point of view. I am sure the ISMA will continue to provide the leadership and effort to pursue this matter in

future legislative sessions.

In summary, we have been besieged on both the state and national levels by a host of anti-physician, anti-medicine legislative proposals. The only hope to defend our positions and, perhaps, regain the initiative is by supporting the ISMA and the AMA.

SIXTH DISTRICT C.B. Clarkson, M.D., trustee

This year's planning meeting for the Sixth District meeting was held Jan. 11, 1989, at the Brandywine Steak House in Greenfield. The officers of the district met to plan the format and select potential speakers for the May 10 meeting at the Greenfield Country Club. Other topics discussed during the meeting included legislative activities and medical care of the indigent.

The Sixth District meeting at the Greenfield Country Club began with a golf tournament from 10 a.m. until 4 p.m. At 4 p.m., the business meeting was called to order by Robert Warren, M.D., president of the district. Steven Dillinger, M.D., gave the treasurer's report and reviewed the minutes of last year's district meeting held at the Westwood Country Club May 11, 1988. ISMA officers and staff were introduced and said a few words.

District officers elected during the meeting are: Daniel P. Rains, M.D., president; Stephen Dillinger, M.D., vice president; Dennis Roberts, M.D., secretary/treasurer and Ray Haas, M.D., alternate trustee. Next year's meeting will be held May 9 in Shelbyville.

At five o'clock, John Neff, M.D., assistant chairman, Department of Pathology, Ohio State University, gave a report on the Harvard Resource Based Relative Value Study. He gave an in-depth re-

port of the history of how and why the study was initiated and the details of its progression. Dr. Neff clarified a number of points, answered questions and offered possible courses and actions this study may someday address.

A hospitality hour after Dr. Neff's talk was followed by a prime rib and chicken dinner attended by approximately 65 members and guests. Comedian Wally Blake provided the evening entertainment.

The Sixth District is presently handling a new development. Because the number of members in the Rush County Medical Society has significantly dropped, members of the society and the Shelby County Medical Society met and decided to hold a combined monthly meeting in Shelbyville. It is anticipated that they will elect officers representing the Rush/Shelby County Medical Society. Details of how this proposition develops will be further investigated.

This year, I was elected from the Board of Trustees to serve on the Executive Committee. I wish to express how interesting and enjoyable it is to work with this group of officers. I look forward to my further participation and opportunities for input.

Again, the members of the Sixth District and I wish to commend Bob Sullivan for his service to this district as a field representative. The activities and business of the ISMA are brought to our attention during his regular visits to each county. He usually spends the day on such visits and answers many questions.

I continue to welcome ideas and suggestions from all district members and hope to adequately represent them as trustee of the district. I also wish to commend Ray Haas, M.D., for his attendance at the Board of Trustee meetings, especially on those occasions I have been unable to attend. I wish to congratulate him for his re-election as alternate trustee. Ray Haas and I look forward to representing the Sixth District during the coming year.

SEVENTH DISTRICT Donna J. Meade, M.D., trustee John M. Records, M.D., trustee Peter L. Winters, M.D., trustee

1988-89 has been a challenging and productive year for the Seventh District Medical Society: Challenging in the sense that we continue to address the concerns of medicine in general, and productive as more of our colleagues have chosen to join forces through organized medicine. Members of our district society have served in local and national forums as effective spokesmen for the views of medicine. Seventh District members also have served in representative roles within organized medicine to the credit and benefit of all of us.

The Seventh District trustees represented the membership and the ISMA at the Indiana Legislature in the ISMA's "Physician of the Day" program and at the opening of the Intensive Care Clinic for High Risk Pregnancies at the Regenstrief Institute in June. Other dignitaries attending the opening of the clinic included Health and Human Services Secretary Louis B. Sullivan, M.D., Sen. Dan Coats, Public Health Commissioner Woodrow Myers, M.D., Clarence Ehrlich, M.D., I.U. Medical Center, and Indianapolis city officials.

The Seventh District was also represented on the ISMA's Ad Hoc Committee for AIDS Policy.

That policy was presented at the August 1989 Board of Trustees meeting.

Time management expert Francis Edwards presented organizational skills to us. If the opportunity occurs in the future, we encourage members to meet with him to hear his recommendations.

Last year the district began encouraging broader participation in the district meeting. The result was a successful 1988 meeting and an even more successful 1989. family-oriented program at the Indianapolis Zoo. The 1989 district meeting, which boasted the largest attendance ever, also provided time for three county medical society meetings. District president Craig Miller, M.D., conducted the meeting and expressed his appreciation to the staff, especially Beverly Hurt, for their meeting management support. He also bid farewell to his colleagues as he announced his move to Pensacola, Fla.

Election results included the reelection of Donna J. Meade, M.D., to her first full term as trustee, the election of George A. Donnally, M.D., as district president-elect, and the re-election of H. Marshall "Sandy" Trusler, M.D., as secretary-treasurer.

We were pleased to receive the comments of several of the ISMA representatives who attended. ISMA President Fred W. Dahling, M.D., outlined several of the challenges that face medicine in general and the ISMA, specifically. Dr. Dahling also acknowledged the strong leadership provided by John MacDougall, M.D., and expressed his confidence and support for the upcoming presidency of George Rawls, M.D. William Van Ness, M.D., chairman of the ISMA's Board of Trustees, spoke at the dinner and encouraged

continued involvement of members in the county, district, the ISMA and the AMA.

In addition to the district members who are involved at the ISMA level, we were pleased that assistant treasurer and candidate for ISMA President-elect, Mike Mellinger, M.D., also attended.

Even with all the trials and tribulations brought about by third parties, we recognize, as does Dr. Dahling, ISMA president, that the practice of medicine is still a most worthy and satisfying profession. As the number of members and the general strength of the District Society grows, we are encouraged that we may make positive inroads to the benefit of our colleagues and patients. We welcome your inquiries and ideas and look forward to representing you in the year ahead.

EIGHTH DISTRICT William C. Van Ness II, M.D., trustee

The Eighth District's annual meeting was held at the Radisson Hotel in Muncie and was hosted by Delaware/Blackford counties. Eighth District President Jane McDowell, M.D., presided over the meeting. ISMA leaders gave presentations, and each county society president discussed several issues that are problems in his/her county. An excellent discussion period followed.

Throughout the year, the trustee, alternate trustee, and the county president and secretary from each county in the district meet every three months. These meetings provide an avenue for discussion of local problems and the dissemination of information from ISMA. I hope we can continue these meetings next year. Once again, I look forward to

serving the members of the Eighth District.

TENTH DISTRICT Nicholas Polite, M.D., trustee

The 10th District's year started in September with the district meeting at the Supervisor Club in Hobart. The turnout was excellent, due in part to increased emphasis on attracting auxilian attendance. In addition to our traditional annual meeting activities (a business meeting and a speaker), we had an auxiliary program during the regular meeting and a fashion show during dinner. Our evening speaker was Ralph Ayres, state representative from Porter County. Elections were held for local officers and Frank Sturdevant, M.D., was re-elected alternate trustee.

Dr. Sturdevant and I attended several board meetings this year and were active in a number of ISMA events, including convention

This year we instituted a series of mailings to alert 10th District members of timely issues and events that potentially could affect their practices. These mailings covered a wide variety of issues. Much of the Medicare information sent in the mailings is gleaned from the helpful meetings between the ISMA and Medicarecarrier representatives and Medicare rules and statutes. This information has been especially helpful in clarifying billing and other problems. Other topics covered in the mailings included the Medicare Assistance Program (MAP), the Porter County Medical Society Basic Science Lectureship, measles, infectious waste and a survey on Medicare provider numbers. We hope to continue the mailings for at least another

vear.

The 10th District 1989 annual meeting was held June 28. Attendance was very good. Otis Bowen, M.D., was this year's speaker. His presentation was interesting and well-received. District officers were elected, and I was re-elected as trustee. I look forward to serving the members of the 10th District.

ELEVENTH DISTRICT Jack W. Higgins, M.D., trustee

The 1988 11th District annual meeting was held on the Madam Carroll and was hosted by the Carroll County Medical Society. Attendance was average and again I urge all members of the 11th District to attend the annual meeting. It is very important for all ISMA members to meet with the state leadership to provide local input and insight. The leadership is always well-represented at the meeting, and they want to know your thoughts so they may better represent you. Joel Eikenberry, M.D., was elected president of the 11th District and Fred Poehler, M.D., was elected secretary-treasurer and necrologist.

Since the last trustee report, we hosted an ISMA legislative dinner at the Ramada Inn in Kokomo. The dinner was well-attended by physicians and incumbent and prospective legislators. Julie Newland and other ISMA staff presented the ISMA's position on several issues. Please try to attend these legislative dinners in the future if you are asked to do so. I feel they are very worth-while

The annual Board of Trustees retreat in July 1988 featured Francis Edwards, Ph.D., who spoke about association management.

In January 1989, the 11th District officers and representatives from each county met to discuss current issues and to plan the 1989 district meeting. I would like to have regular meetings with the county officers and will attempt to arrange at least two meetings a year.

On Aug. 9, 1988, Dr. MacDougall, ISMA staff and I attended a meeting of the Grant County Medical Society. It was decided at that meeting that the ISMA should establish a legislative oversight committee to monitor Medicare and Medicaid carriers. The committee now meets regularly and welcomes the attendance of any member with reimbursement or other Medicare problems. Grant County deserves our thanks for their foresight, time and effort that created this committee.

Government and the insurance industry represent the greatest threats to medicine, and we must make the political arena our first line of defense. During the 1989 state legislature, the cap of the malpractice act was increased to \$750,000 starting in 1990. None of us wanted to see the cap raised, but there was strong support for change in the legislature, and the increased cap was a reasonable compromise to keep the act intact. The ISMA was successful in the defeat of a proposal to mandate Medicare assignment as a condition of licensure, a proposal to prohibit physicians from dispensing medication from the office and several proposals to expand the scope of practice of currently licensed practitioners and to license other allied health practitioners.

I encourage all members to support IMPAC/AMPAC and to participate in the Key Contact Program. If you need information

about these programs, please call me.

Your alternate trustee, Larry Musselman, M.D., and I thank you for allowing us to serve on the Board of Trustees, and we continue to solicit your input in our efforts.

THIRTEENTH DISTRICT Steven M. Yoder, M.D., trustee

The 13th District Medical Society annual meeting was held Sept. 14, 1988, at the Plymouth Country Club. Poor attendance continues to be a problem with the district meeting. ISMA officers and staff were well-represented. In my tenure as a trustee, I have continually found the district meeting to be a poor avenue of communication with the membership, even though it is a delightful social event and another opportunity for ISMA staff and officers to meet.

I have been quite active in legislative affairs this year. I attended the legislative reception and contacted my state legislators and congressmen more this year than ever before. I have found each of my letters to be promptly acknowledged and answered. With all of the problems arising from changing Medicaid to Medicare and insurance regulations, I have found a renewed interest in my community in being active in the ISMA. I have also received many positive comments on the services available to ISMA members. The only down side of this has been that many of the financial advantages are coming from business in the center of the state, and it might be worthwhile seeing if other discounts can be worked out in the extreme north and south end of the state to make it more convenient for the membership outside central Indiana.

This is my last report as a member of the Board of Trustees. Family, church and local school board commitments have become such that I am unable to continue as trustee for another term at this time. I will continue to be active in the legislative arena, keeping in touch with my legislators. I also feel that in order to maintain the high quality of health care that is available to the citizens of our state and country, it will be necessary to have a strong ISMA and AMA.

COMMISSION ON CONSTITUTION AND BYLAWS Helen Geyer Czenkusch, M.D., chairman

This year the commission incorporated eight resolutions adopted by the 1988 House of Delegates.

Resolution 88-1 – Delegate Apportionment – amended Section 3.0205.

Resolution 88-4 – amended Section 3.021102.

Resolution 88-5 – Discrepancies in Definition of Officers – amended Section 4.01. It also required constitution changes (Article V and Article VI), which will be brought back to the 1989 House of Delegates after having been printed twice in INDIANA MEDICINE.

Resolution 88-9 – Unslotted Positions for AMA Delegates and Alternate Delegates – amended Section 3.0208.

Resolution 88-11A – Dissolution of Certain ISMA Commissions and Committees – required that Section 5.0612 be added and that the Medical-Legal Committee, the Reduce Drunk Driving Committee and the Com-

mission on Public Relations be deleted. This required parts of Section 7.00 to be renumbered and reindexed.

Resolution 88-15 – Bylaw Section 4.0101 was amended as passed.

Resolution 88-17 – Medical Society Representation on the ISMA Board of Trustees – amended Section 1.0104, Section 5.0406, Section 5.0407 and 12.0402. Editorially, we corrected Section 12.0302 to make it consistent with the preceding change.

Resolution 87-12 – Mission
Statement - ISMA
Constitution – amended
Article II. This resolution
passed the 1987 House of
Delegates, was published
twice in INDIANA MEDICINE
and passed the 1988 House
of Delegates.

Editorial changes were made in Sections 1.0302, 3.020503, 5.01, 6.01, 7.1003, 7.1008, 11.06, 12.0302 and 12.04 to clarify and make the Bylaws consistent with administrative policy.

The commission requested staff to draft two resolutions for the 1989 House of Delegates. One resolution would amend Article VII of the Constitution to include the words "Medical Student Society" to make it consistent with this year's Bylaws changes. The other resolution requests that ISMA alternate trustees be given the privilege of the floor in the House of Delegates even when they are there in a non-voting capacity.

I wish to thank the members of the commission for their assistance and ISMA staff for their advice and continued support during the past year. COMMISSION ON LEGISLATION Edward L. Langston, M.D., chairman

1989 has been a very interesting and busy legislative year. The 1989 session was marked by some very unusual characteristics. The House of Representatives had 50 Republicans and 50 Democrats and, for the first time in its history, it had two speakers, one Democrat and one Republican who shared duties on alternate days. Also, each committee had a Republican and Democrat chairman. Special rules were implemented for bills that would be heard, voted upon and subsequently passed to the full House of Representatives. The session itself was marked by unusual political positioning and resulted in a special session being called to establish the biennial budget.

The state Senate had 26 Republicans and 24 Democrats.

The summer and fall of 1988 were busy with interim committees. The ISMA's Government Relations Department represented the association at all of those interim committee meetings and presented information when asked to do so by the legislators. A number of members testified on behalf of the association on various issues throughout the summer and fall.

There were a number of important health/medical bills passed and signed into law. This is a summary of some of the more important ones:

SEA 429 – This bill requires carriers of AIDS, HIV and Hepatitis B to notify sexual or needle-sharing partners of their disease status. The bill requires physicians who

diagnose, treat or counsel patients with dangerous communicable diseases to inform their patients of their (the patient's) duty to warn their contacts. If the physician makes a reasonable effort to inform the carrier of their duty to inform their contacts and that has not been done, the physician may disclose the carrier's status to the person-at-risk. Physicians who notify in good faith are immune from liability. This is a major change from previous HIV legislation. You will note this includes Hepatitis B.

SEA 120 – This requires the Indiana State Board of Health (ISBH) to establish as a pilot project a traumatic injury registry to which participation is voluntary. This information is to be used confidentially within the ISBH.

SEA 267 – This makes the crime of dealing in controlled substances a Class A felony rather than a Class B if the person is an adult with a prior conviction who provided drugs to a child younger than 12.

SEA 270 – This adds a coroner investigating a death to those who are authorized to examine hospital health records.

SEA 289 – Provides that a physician who permits a person to fill or refill a prescription, except as authorized by the physician, is subject to disciplinary action. A person who violates this provision commits the unlawful practice of medicine (hospitalowned pharmacies are exempt). Essentially, this is a prohibition against thera-

peutic substitution except in a hospital setting.

SEA 385 – Establishes a twoyear commission on health policy comprised of four legislators and seven others appointed by the governor to make recommendations concerning such things as access to and cost of health care, and the role of healthy lifestyles.

SEA 396 – Requires the insurance commissioner to adopt rules establishing minimum standards for benefits claims payment under Medicare supplemental policies.

SEA 429 – As mentioned before, this deals specifically with physicians notifying contacts of HIV-infected people. It also specifies licensure requirements and procedures for blood banks. It requires that semen donors and recipients be tested for HIV and other communicable diseases.

SEA 449 – Known as the SO-BRA Act, it provides Medicaid coverage to children between the ages of one and three and pregnant women with incomes up to 100% of the poverty level. Beginning July 1, 1990, the standard will increase to 125% of the poverty level and July 1, 1991, the standard will be increased to 150% of the poverty level.

SEA 538 – Requires the Department of Public Welfare to establish a program to train relatives of people eligible for community and home care services in personal care and homemaking services. Relatives who complete the program would be eligible for reimbursement

under this program.
The bills passed on the House side of the legislative floor included the following:

HEA 1058 – Allows the ISBH to issue penalties for the violation of ISBH-governing statutes or rules. Also, it provides that the local board of health shall appoint a health officer who must be a physician and whose appointment is subject to approval by the ISBH. The ISBH is the state agency designated to accept delegation from the Department of Health and Human Services (HHS) and to adopt rules to carry out the new Federal Clinic Labs Law (PL100-578).

HEA 1071 – Requires the Department of Public Welfare to pay clean claims (Medicaid) within 45 days after all the information is received.

HEA 1149 – Provides that the ISBH is to license and regulate hospitals and ambulatory outpatient surgical centers. It gives the secretary of the ISBH the authority to initiate a procedure to issue a probationary license or to revoke the license of a health facility. It also defines certain penalties and establishes an appeals mechanism.

HEA 1162 – Transfers the administrative responsibilities of the Crippled Children's Fund from the Department of Public Welfare to the ISBH and renames it the Fund for Services for Children with Special Health Care Needs. It also allows an optometrist, podiatrist or chiropractor (in addition to a physician) to make recommendations to the local de-

partment of health or the ISBH as to whether or not a child should be accepted for care by a children's diagonostic and treatment center.

HEA 1270 – Prohibits providers from soliciting people who do not reside in Indiana to relocate in Indiana in order to receive Medicaid.

HEA 1668 – Requires the governor to enter into an agreement with the AMA to operate the PADS II program in Indiana to monitor the diversion of all schedules of prescription drugs. Providers are not mandated to participate. It requires the governor to establish an inter-professional committee to oversee the PADS II program. The multiple copy prescription program and the PADS II program are to coordinate the sharing of information confidentially. The Controlled Substances Advisory Committee will provide to the legislature an annual report of the multiple copy prescription program. Both the PADS II program and the multiple copy prescription program will expire in 1993. The bill also allows pharmacists to substitute a generic drug on Medicaid and Medicare prescriptions unless the physician writes "brand medically necessary" on the prescription.

HEA 1777 – Increases the cap on damages for acts of medical malpractice that occur on or after Jan. 1, 1990, to \$750,000. The underlying \$100,000 coverage will not be affected by the proposal and no increase in the 125% sur-

charge should be needed for at least two years. This significant legislation was enacted after prolonged negotiations with the Indiana Hospital Association, Indiana Trial Lawyers Association and the ISMA. The groups agreed in writing not to propose or support legislative review of the act until at least 1993.

The negotiation on this significant legislation was done to protect other provisions of the act, including the statute of limitations and the medical review process.

It should be noted there were certain legislative issues that did not pass the legislature because of the efforts of the ISMA's Government Relations Department and the Commission on Legislation. Among those were a bill to prohibit physician office dispensing and a bill requiring mandatory assignment under Medicare tied to licensure.

The ISMA's Government Relations Department will continue to monitor legislative issues throughout the summer and fall. A number of meetings will be held with the legislators in the coming months.

On a more personal note, I want to thank the leadership for allowing me to participate on the Commission on Legislation over the past six years. The last five years, I have had the pleasure of being chairman. It has been an exciting, challenging and rewarding opportunity to grow personally, politically and professionally. I have chosen not to seek the chairmanship next year. It is time for a change in leadership and, perhaps, a new perspective. I think it is healthy for the organization and the commission. It is time to give other physicians an opportunity in

leadership and policy development.

I wish especially to thank Julie Newland, director of the ISMA's Government Relations Department, for her efforts on behalf of the ISMA and her support and friendship over the past six years. A special thanks to the members of the department who have worked so diligently on our behalf: Duane Schaefer, Mike Abrams, Kim Williams and Jane Penny, the 1989 legislative intern.

COMMISSION ON MEDICAL EDUCATION James E. Carter, M.D., chairman

During the past year, the Commission on Medical Education and Subcommission on Accreditation each met twice. There were accreditation visits to 12 institutions, which were accredited for one to six years. Seventeen medical organizations were accredited for a two-year period. All members of the commission and subcommission were involved in the institutional visits and accreditation process.

Glenn Bingle, M.D., chaired the Subcommission on Physician Remedial Education. This is an educational program developed to correct a deficiency in a physician's professional knowledge and/or skill as delineated by a PRO process. Dr. Bingle attended a national planning conference on physician remedial education and reported that there is significant national interest and involvement in this issue. The subcommission met with Wayne Crockett, M.D., medical director of the SENTINEL Medical Review Organization. He discussed the SENTINEL review system. SENTINEL is interested in working with the subcommission and Indiana in the develop-

ment of an appropriate remedial educational program. The subcommission will cosponsor a meeting with the Association of Indiana Directors of Medical Education at the annual ISMA convention. The speakers are nationally recognized leaders in physician remedial education: Edward I. Kowalewski, M.D., chairman, Department of Family Medicine at the University of Maryland School of Medicine and Richard Pierson. M.D., from St. Luke's - Roosevelt Hospital Center, New York, N.Y. They will present an overview of the "Physician Remedial Educational Program" in their local area and nationally.

The ISMA Commission on Medical Education received reports on curricular changes that are occurring at the Indiana University School of Medicine. New programs in Ambulatory - Primary Care are being instituted in the undergraduate curriculum.

Members of the commission were among those who worked with Indiana legislators regarding the issue of residency working hours and supervision. Indiana legislators withdrew a proposal from the Indiana legislature that would have restricted residency working hours. This proposal was withdrawn with the understanding that the issue is being addressed at the local and national levels. This issue will probably be raised again by the Indiana legislature if not addressed significantly by the local and national groups.

Stephen Jay, M.D., of the Subcommission on Accreditation met with the Indiana Hospital Association on several occasions to discuss how the ISMA and the IHA can work together to increase the number of hospitals in Indiana seeking accreditation. A steering committee from the commission was formed during the past year to develop and plan agenda items for the commission and subcommission. Members of the steering committee are chairmen and vice-chairmen of the commission and subcommissions.

The commission and subcommissions have been well supported by ISMA staff. Tom Martens has done an excellent job of coordinating the institutional visits in the accreditation process. Stephen Jay, M.D., and Glenn Bingle, M.D., have provided superb leadership for the subcommissions. The interest and support of the members of the commission and subcommission have enabled the tasks to be effectively and efficiently carried out.

COMMISSION ON MEDICAL SERVICES Alfred Cox, M.D., chairman

During 1989, ISMA members received several copies of the ISMA's "Your Financial Advantage" brochure. The brochure describes the ISMA's three-year-old Financial Advantage program, which identifies for ISMA members reputable vendors and negotiates discount terms for their goods and services. ISMA members enjoy the benefits of receiving discounted products and services from reputable vendors without investing valuable time researching and negotiating.

Your response to the Financial Advantage program has been gratifying. I encourage you to continue to utilize the program. We are constantly adding new products and services and tailoring the established ones.

Resolution 87-9 was referred to the Commission on Medical Services after the 1987 House of Delegates. The resolution called for the ISMA to officially affirm the belief that nursing home patients should be seen as often as their medical condition requires rather than being seen as often as an insurance company formula says is appropriate. The commission found itself in strong philosophical agreement with the intent of that resolution. In fact, the commission felt so strongly that it modified the resolution with even stronger wording and resubmitted it to the 1988 House of Delegates.

I am pleased to report that the 1988 House of Delegates passed the resolution, which was approved by the Board of Trustees for inclusion in the ISMA policy manual.

I would like to thank all of the members of the commission for the energies they have devoted to the commission's work.

COMMISSION ON PHYSICIAN ASSISTANCE Dolores Burant, M.D., chairman

In September 1988, Kete Cockrell, M.D., was hired by the ISMA as part-time medical director of the Commission on Physician Assistance. The responsibilities for that position include:

- Receiving information about physicians in need of assistance for physical, emotional or substance abuse problems;
- 2. Evaluating the information and gathering more as necessary;
- Facilitating the assessment of the need for certain physicians to receive treatment;
- Establishing a contract for entering treatment, when needed;
- 5. Establishing a contract to ensure ongoing care and

- reentry into medical practice:
- Acting as liaison with regulatory bodies including the Drug Enforcement Agency (DEA) and Indiana State Licensing Board to ensure that the commission acts as an advocate for the physician;
- 7. Disseminating information and assistance to local committees, the media and other organizations and institutions.

Upon Dr. Cockrell's arrival, the commission's focus changed from providing encouragement and information to local physician assistance committees to the actual assistance of physicians and their families. The commission met in February for a day-long retreat to better define its philosophy to reflect this change. The commission concluded that certain functions needed to assist physicians are better directed from a central location (i.e., coordinating interventions of disabled physicians who deny their disability, monitoring the recovery status of physicians, acting as advocate to the Indiana Medical Licensing Board and the DEA). Certain functions, such as identifying physicians who need assistance and providing help with interventions and monitoring, are best performed locally. We also concluded that the commission needs to continue to provide education and consultation to local commit-

As of May 9, 1989, Dr. Cockrell had requests for services on 38 physicians. An analysis of the cases revealed that the referrals for assistance came from a wide variety of sources including the DEA, the Attorney General's office, county societies, other physi-

cians and family members. While drug abuse was the impairment in the majority of cases (22), alcohol came in second with eight cases. Other causes of impairment included unprofessional conduct and sexual misconduct. Indianapolis referred most of the cases (12). The majority (18) were in family/general practice. As of May 9, 12 physicians had completed treatment and returned to practice. The rest were in various stages of recovery and treatment. Referrals continue to come in.

We believe this year's commisson activities clearly show the need for a physician assistance program in Indiana and how effective it is in returning physicians to practice. Because of Dr. Cockrell's work, the program this commission oversees is viewed by the Indiana State Licensing Board as a viable alternative to license removal for those physicians who are willing to undergo treatment. While the commission does not provide actual treatment, it does assist with the discovery process, interventions, contracting and monitoring the treatment. This assistance shows the Indiana State Licensing Board and the DEA that the physicians are receiving the help they need to safely practice medicine.

However, this program is facing a crisis. Need for assistance has outstripped the funding, and more professional time is required. The commission has a financial committee working on creative funding ideas, but these take time to develop. In the meantime, Dr. Cockrell, commission members and local medical society members will work on the essential aspects of providing assistance. Commission members will continue to be available to help educate local societies.

In conclusion, this year we have found there is a great need for a physician assistance program in Indiana. Physicians can recover and remain in or return to practice. More funding is necessary to support a program that meets a demonstrated need. The support of membership is needed to assist in providing both ideological and financial support.

COMMISSION ON SPORTS MEDICINE Ronald Blankenbaker, M.D., chairman

The Commission on Sports Medicine continues to encourage good health and physical fitness in our Hoosier youth through safe, effective sports activities in school and amateur athletic programs. Since the last annual report, the commission has met bimonthly.

As reported to you last year, the commission has remained highly involved with the issue of anabolic steroid use by young athletes. With the generous assistance of Community Hospital of Indianapolis and the Indiana High School Athletic Association, more than 100,000 brochures and posters warning of the dangers of steroid use have been distributed to all Indiana junior and senior high school athletes.

We would like to recognize the tireless efforts of Randall Morgan, M.D., who continues to organize sports medicine symposiums around the state. This program is designed for individuals who care for school children in recreational activities including physicians, athletic trainers, athletic directors, coaches, nurses, teachers and school administrators.

During the past year, the commission has reviewed information

about breakaway baseball bases. It appears that use of such devices can significantly reduce sliding injuries. The commission's observations have been passed on to the Indiana High School Athletic Association along with a request to discourage head-first sliding into home base.

As this report is being written, the commission is collecting information regarding athletic eye injuries and boxing injuries.

With the support of the ISMA's Board of Trustees, the commission has both encouraged and assisted the Indiana Athletic Trainers Association in its efforts to implement an educational curriculum for faculty members to become qualified to work with athletes in those schools that do not have a certified athletic trainer.

Throughout the year, the commission has discussed a variety of topics including athletic nutrition, the World Medicine Games, enforcement of steroid ban, school/sports physicals, Governor's Council for Physical Fitness and Sports Medicine - Project to Encourage Children and Youth to Exercise and football injuries.

Commission members and members of the Professional and Technical Advisory Committee have given generously of their time and expertise throughout the year.

INDIANA MEDICAL FOUNDATION Frank Ramsey, M.D., chairman

The foundation continues to grow slowly from memorial contributions and interest income from a certificate of deposit that carries a principal amount of \$29,828.55. The foundation also maintains a standard savings account which adds additional inter-

est income.

Since the 1987 financial report, total assets have increased by \$5,963.07. Our current net worth is \$37,096.20.

Future plans include a statewide program to encourage contributions. Large contributions are welcome, but a large number of small contributions will keep us away from private foundation status and all its rules of financial conduct.

GRIEVANCE COMMITTEE G. Beach Gattman, M.D., chairman

During 1989, the Grievance Committee continued to work on complaints against physicians. As usual, the lack of good patient communication was the reason for most of the complaints that were received.

As chairman, I wish to thank the other members of the committee for their willingness to serve during the year.

AD HOC COMMITTEE ON PROFESSIONAL LIABILITY George Lukemeyer, M.D., chairman

The 1989 Indiana General Assembly had several legislative proposals introduced to make substantive changes in the Medical Malpractice Act and its operation. For the past several years, legislative initiatives by the trial lawyers were not directed at the basic elements of the act. The last time the ad hoc committee was in operation was in response to the interim legislative study committees in 1985. However, because of the present political makeup of the House of Representatives and the proposals before it, Fred Dahling, M.D., ISMA president,

called for our committee to meet, deliberate and make recommendations to the ISMA Executive Committee regarding substantive changes in the law: in particular, to the total cap on awards. The ad hoc committee and various members met several times to explore options available to the association. Their recommendation to leadership was to have a negotiation team of physician members and key association management enter into discussions with concerned parties. The representatives were given parameters within which to negotiate.

The team met with interested parties five times to finalize an agreement and reported their progress to the chairman of this committee and ISMA leadership. A final agreement was reached that raised the cap on malpractice claims to \$750,000 for those incidents occurring on or after Jan. 1, 1990, but did not affect underlying \$100,000/\$300,000 coverage. The bill as amended and agreed to by all concerned passed 67-32 in the House and unanimously in the Senate. A consensus was also reached that precluded the interested parties from introducing substantive changes in the act for four years. Additionally, an actuarial study of the potential impact on the surcharge is being prepared by a consulting actuary for use with the Insurance Depart-

I wish to thank the members of the committee: Martin O'Neill, M.D., Shirley T. Khalouf, M.D., Paul Siebenmorgen, M.D., John MacDougall, M.D., Willis Stogsdill, M.D., William Van Ness II, M.D., William Cast, M.D., J. William Wright Jr., M.D., Gilbert Wilhelmus, M.D., Mike Mellinger, M.D., and Paul Muller, M.D.

I would especially like to recog-

nize those on the negotiating team: William Wright Jr., M.D., Rick King and Julie Newland for their fine efforts on behalf of the association.

INDIANA MEDICINE Frank Ramsey, M.D., editor

At the end of eight months of this fiscal year, income has exceeded the budget expectation by more than \$9,653.43. During this same period, expense money has added up to \$5,473.79 less than the amount forecast by the budget. The additional income

and reduced expenses total \$15,127.22.

The following income items are listed with a percentage of the total budgeted amount that has been received for that item at the end of eight months of the fiscal year: subscriptions, 95.7%; national advertising, 89.8%; local advertising, 80.6%; classified ads, 75.6%; l.U. CME subsidy, 81.1%; author subsidies, 55.5%; and Physicians' Directory, 144.5%.

We are receiving an adequate submission of clinical articles. In fact, the backlog of manuscripts awaiting publication is so sizable that the time between acceptance and publication of articles is at least a year.

The magazine took on a new look effective with the March 1989 issue. A total redesign, including a new nameplate, and conversion to desktop publishing gave the magazine a cleaner, more modern look. The INDIANA MEDICINE staff now typesets all copy and lays out the pages on Apple Macintosh computers. The magazine also has a new printer, The Ovid Bell Press in Fulton, Mo. Ovid Bell prints 12 other state medical journals and 150 other publications.

resolutions

Status of 1988 resolutions

RESOLUTION 88-1

Introduced by:

Referred to:

Status:

Delegate Apportionment Harrison-Crawford County

Medical Society, District 3 Commission on Constitution

and Bylaws

Implemented by amending

Section 3.0205

RESOLUTION 88-2A

Introduced by: Referred to:

Status:

Voluntary Acceptance of Medicare Assignment

Lake County Medical Society ISMA Communications

Department

1. Medicare Assistance Program pilot conducted six months in Montgomery

County.

2. MAP manual completed

and mailed.

3. Follow-up letter sent in May to encourage county

development.

4. Board action June 11: ISMA will not pursue statewide Medicare Assistance

Program.

and Bylaws

and Bylaws

Implemented

RESOLUTION 88-4

Amendment of Section 3.021102, ISMA Bylaws

Commission on Constitution

Commission on Constitution

Introduced by:

Referred to:

Status:

RESOLUTION 88-5

Introduced by:

Referred to:

Discrepancies in Definition of "Officers"

Commission on Constitution and Bylaws

Commission on Constitution and Bylaws and INDIANA MEDI-

Status: Amended Section 4.01.

> Constitution changes (Articles V and VI will be brought back to the 1989 House for final action after printing twice in

INDIANA MEDICINE.)

RESOLUTION 88-6A

Introduced by:

Referred to:

Communication/Methods by Insurers

Lake County Medical Society ISMA General Counsel and

the Indiana Delegation to the **AMA**

Status:

Resolution distributed to Insurance Department and Indiana insurers to express the concern regarding this issue. Introduced Resolution 14 at

the AMA Annual meeting (June 89). House adopted Board of Trustees Report KK in lieu of our resolution. Report KK offers recommendations on physician involvement in utilization review and pre-authorization programs and proposes the drafting of

topic.

RESOLUTION 88-7

Nursing Home Care (Modification of Resolution 87-9)

model state legislation on the

Introduced by:

Commission on Medical Services

Referred to:

Commission on Medical

Services

Status:

Board approval on June 11 of inclusion of resolve statement

into ISMA policy manual.

RESOLUTION 88-9

Unslotted Positions for AMA Delegates and Alternate

Delegates

Introduced by:

Referred to:

ISMA Board of Trustees Commission on Constitution

and Bylaws

Status:

Implemented by amending

Section 3.0208

RESOLUTION 88-10 Introduced by:

Referred to:

Status:

Dues Increase

Executive Committee ISMA Financial Department

Implemented

RESOLUTION 88-11A Dissolution of Certain ISMA

Commissions/Committees

Introduced by:

Referred to:

Executive Committee Commission on Constitution

resolutions

and Bylaws and Board follow-

Added Section 5.0612. Fur-Status:

ther implemented by the deletion of specified committees/

commissions.

RESOLUTION 88-12 Regulation of Tanning

Facilities

Introduced by: Section on Cutaneous Medi-

Referred to: Commission on Legislation Status:

Assigned to the department staff for research and study. This resolution was not referred to the department by the Board in time for the bill filing deadline (January 5). Therefore, legislation will be filed in the 1990 session since

we missed the 1989 session

bill filing deadline.

RESOLUTION 88-13 Administrative Charges to

Patients or Third-Party

Providers

Dyke Egnatz, M.D. Introduced by:

Referred to: Status:

Status:

ISMA General Counsel This issue has been discussed at monthly Medicare meetings. Current Medicare policy

will not pay for telephone consultations. This will require a change in the Medi-

care law.

RESOLUTION 88-14 Interference of Patient Moni-

toring by Third-Party Prescription Plans

Introduced by: Dyke Egnatz, M.D.

Referred to: Commission on Legislation

Assigned to the department staff for research and study. Report to be completed in

September.

RESOLUTION 88-15

Referred to:

Introduced by: Indiana Delegation to the

Bylaws Section 4.0101

Commission on Constitution

and Bylaws

Status: Implemented

RESOLUTION 88-16A Illegal Drugs and Related

Problems

Introduced by: Anil K. Sarkar, M.D., Clay

County Medical Society Referred to: Commission on Legislation Status: Assigned to the department

for research and study. Will consult with AMA Department of Substance Abuse. Will prepare a letter to be sent to the Congressional delegation in June. This issue is

already being addressed at the

state level.

RESOLUTION 88-17 Medical Student Society

Representatives on the ISMA

Board of Trustees

Student Medical Society Introduced by: Referred to: Commission on Constitution

and Bylaws

Status: Amended Sections 1.0104,

5.01(3), 5.0406, 5.0407 and

12.0402

RESOLUTION 88-18 AIDS Counseling Documen-

tation

Ed Langston, M.D., Chairman, Introduced by:

Commission on Legislation

Referred to: ISMA Commission on Legisla-

The action of the House was Status:

> reported in writing to the State Board of Health in November 1988. Rule was not pursued by the State Board of

Health.

RESOLUTION 88-19 Tobacco in Vending

Machines

Introduced by: Ed Langston, M.D., Chairman,

on behalf of the Commission

on Legislation

Referred to: ISMA Commission on Legisla-

Status: Bill was filed in the session;

approved by the House and

died in the Senate.

resolutions

RESOLUTION 88-20A AIDS Policy

Introduced by: Ed Langston, M.D., Chairman,

on behalf of the Commission

on Legislation

Referred to: Board of Trustees for develop-

ment of policy

Status: The Board approved the pol-

icy statement developed by the ad hoc committee on AIDS, and the language will be incorporated into the ISMA

Public Policy Manual.

RESOLUTION 88-21 Expansion of Medicaid

Prenatal Care Program

Introduced by: Ed Langston, M.D., Chairman,

on behalf of the Commission

on Legislation

Referred to: ISMA Government Relations

and Public Relations Depart-

ment

Status: Conducted Editorial Board

visits on SOBRA in Fort Wayne News Sentinel Journal Gazette and Indianapolis Star and News on December 20, 1988. Bill passed. Mailed statewide news release. Pending the signing of this bill into law, Government Relations and Public Relations Department will work with the State Board of Health to notify physicians of the new law and encourage M.D. participation to provide prenatal care to these women in the program.

RESOLUTION 88-24

Health Care for Children,

Ages 0-8, in State of Indiana ISMA Commission on Medical

Introduced by: ISMA Conservices

Referred to: ISMA Government Relations

and Public Relations Depart-

ment

Status: Topic included in Editorial

Board visit December 20. Mailed statewide news release. To be further researched and updated over the summer by staff with the help of the State Board Health. This issue is to be addressed in a two-year study of a blue ribbon task force on access to health care set up by Gov. Bayh. The new SOBRA law will address children up

to age three.

RESOLUTION 88-25

Introduced by: Referred to:

Status:

Office Magazines Without Cigarette Ads

ISMA Third District Indiana Delegation to the AMA and INDIANA MEDICINE Implemented in INDIANA MEDICINE (April 1989 issue). Resolution 13 was introduced at the AMA Annual Meeting (June '89) and the House adopted Substitution Resolution 13 which changed its name to "Office Magazines

Without Tobacco Ads" and

substituted the word "to-

bacco" for "cigarette" throughout the text.

RESOLUTION 88-27

Introduced by: Referred to: Status: Patient's Compensation Fund Lake County Medical Society

Commission on Legislation The Executive Committee voted to have this issue addressed through contacts with the new administration first, prior to legislation. As soon as the new Insurance Commission is appointed, this issue will be discussed. This issue has been raised with

Gov. Bayh.

RESOLUTION 88-28

Introduced by:

Referred to:

Status:

Truth in Insurance BillBartholomew-Brown County

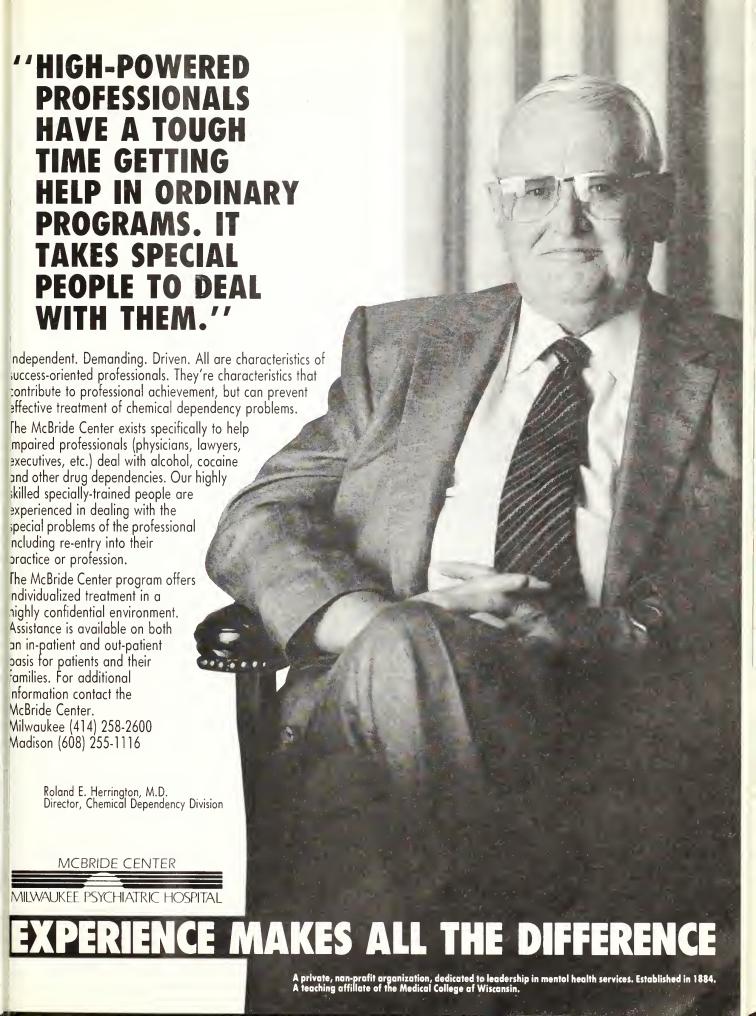
Medical Society

Commission on Medical

Services

Further time needed to

research



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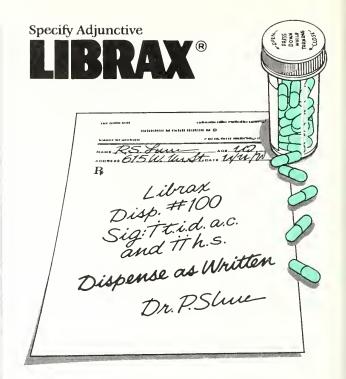
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Please consult complete prescribing information, a summary of which follows:

* Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows.

"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma; prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium Br. Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery driving)

other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss the gray of the gray days of the property of the gray
therapy if they intend to or do become pregnant.

As with all anticholinergies, inhibition of lactation may occur.

Withdrawal symptoms of the barbiturate type have occurred after discontinuation

of benzodiazepines (see Drug Abuse and Dependence). Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phepothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychatine patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug. Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chloridiazepoxide HCl is used along, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, 1e, dyrnyess of mouth, blurring of vision, urinary hesitancy,

Drig Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlor-diazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. After extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

P.I. 0288



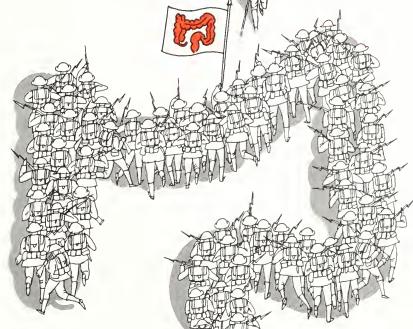
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editorial

What's next - worldwide McDoc-in-the-Box?

Philip Ball, M.D. Muncie

Free-standing entrepreneurially promoted boutique clinics that do medical testing are now established features of some of the shopping malls and professional business strips of America. We have units springing up here and there that will check cholesterol levels or bone density, test for AIDS, do a mammogram or perform any number of other testing or imaging procedures. Where this will lead is anybody's guess, but with a little imagination, you can believe that some of the following scenes could develop:

The "Intergalactic-Imaging Corporation of America" will set up branches everywhere and they will advertise as follows: "We will scan your brain with an MRI unit to check you for strokes and tumors. We will CAT scan your chest and abdomen to look for cancers and vascular problems. We will xero-mammogram the pectoral protuberances of all women to look for malignancy. We will do an echocardiogram on your heart to see if you have problems with the valves or the cardiac chambers. For the male, we will introduce a rectal ultrasound probe to look for prostate masses. After these exams are complete, we will issue you an embossed, gold-bordered, billfold summary card to carry with you."

The "Amalgamated Intercontinental Worldwide McDoc-in-theBox" will have branches everywhere that will permit you to walk in with your sore throat, hangnails and minor cuts and scratches. After every five trips, you'll be given a free visit. And at each visit, you'll be given a scratch card that will give you a chance to win a million dollars or a trip to Disney World.

The "Mr. Cholesterol Speedy Lab" will open up thousands of drive-in booths in all the malls of America. You will stop briefly to have your finger pricked, and then you will move on down the drive-thru about 20 feet, where you will be handed an embossed card with your total cholesterol engraved on it. One can envision a scene here of a man being given a card that says, "Congratulations! Your cholesterol is 199." And this man then drives away happy and contented, even though his doctor told him recently that his blood sugar was sky-high at 350, that his triglycerides were out of sight at 997, that his blood pressure was in the clouds at 210/120, that his weight was monumentally high at 295 and that he should quit smoking those two and a half packs a day of unfiltered cigarettes.

Walk-in booths may be established here and there for the discreet testing of people for AIDS. To make this totally anonymous and non-judgmental, probably some kind of robotized mini-lab would have to perform and report the results of the AIDS test without human participation to maintain privacy. One could call this a

"drive-in aiditorium."

We may have automotive drivein booths for confessing sins, whether you are a follower of the pope, Jimmy Swaggart or Oral Roberts. The booth could be called "Mr. Confessional." This unit would feature a computer unit with a robot voice that would reply to all your confessions with a soothing statement like "There, there, now, deposit \$5 and go forth never to sin again."

What about a psychiatric drivein that could be called "McFreud's?" You would drive into a darkened tunnel-like booth, hook a microphone and speaker on your window, lie down in your back seat and carry on a conversation with a computerized robot. This device would listen to your complaints of anxiety, depression, paranoia, sexual misadventure or whatever, and when you were done, it would extend to you its deepest sympathy. It also probably would tell you that your problem was one of the worst that it heard that day. The robot machine probably then would recommend that you come back every day for a month, to talk things over at \$10 a crack.

Although boutique units such as those described indeed may become common, I guess that I would still rather have a human being with good common sense to talk to about my problems, rather than something anonymous, automated, robotized or impersonal. But then, maybe I'm old-fash-

ioned. 🗖

commentary

Prediction proves false in medical profession

Philip S. Chua, M.D. Merrillville

 ${f A}$ t the start of the revolution in the health care industry a few years ago, psychologists and sociologists had predicted that the physician, like any other human being, inevitably would respond to the restrictive changes in the practice of medicine "by sacrificing some of his principles and professional ethics." The "experts" also forecast that the resulting competitive and financially less rewarding environment would lead to cut-throat rivalry among the medical practitioners, would turn the profession into an avaricious and mercenary business and, literally, would pit physicians against one another.

Northwest Indiana, with its

proximity to Chicago, fairly reflects the current mood and trend in the country. Therefore, if the ominous prophesies of the doomsayers are correct, the phenomenon in question should be manifest by this time in the nation and in this community. Contrary to the prediction, however, there is no evidence that physicians are turning into a community of wolves and scavengers, that the medical profession is sinking to the basement level of unethical practices or that it is going down the drain of immorality. Far from

Physicians in the United States today, except for the proverbial black sheep of the family, appear much more conscious of their fragile reputations in the practice of their art. Obviously, this is not surprising because they are a

highly educated breed of individuals with integrity, honor and self-respect. The few unfortunate certainly are not characteristic of the entire medical community.

The critics will continue to exploit the issue and exaggerate the negative picture they paint of the medical profession. There is no way to stop this. But, regardless of what opinion-makers or detractors say, we must continue to pursue truth and excellence in our endeavors and to practice the science and art of medicine in accordance with the oath we have taken as physicians.

The author is a cardiovascular surgeon in northwest Indiana. He also is editor of the Lake County Medical Society Bulletin.

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September CME quiz answers

The following letters are the answers to the CME quiz that appeared in the September 1989 issue: "Parenteral nutrition in infants and children: A guide to proper management."

- 1. b. 6. d.
- 2. b. 7. a.
- 3. d. 8. c.
- 4. b. 9. d. 5. b. 10. d.



If you recognize Tad's father, you'll recognize the name of one of the largest life insurance companies in America.

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- Reasonable and Customary allowances for surgery, maternity, general anesthesia, medical visits, and radiation therapy
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MEDICAL PLAN 2

- Comprehensive Major Medical expense protection – \$500 Calendar Year Deductible
- Unlimited Maximum Benefits

MEDICAL PLAN 3

- · Comprehensive Major Medical expense protection \$250 Calendar Year Deductible
- · Unlimited Maximum Benefits

MEDICAL PLAN 4

- · Low cost comprehensive Major Medical expense protection — \$2,000 Calendar Year Deductible
- Unlimited Maximum Benefits

MEDICAL PLAN 5

- · Comprehensive Major Medical expense protection \$250 Calendar Year Deductible
- · Includes cost-containment features
- Unlimited Maximum Benefits

MEDICAL PLAN 6

- Comprehensive Major Medical expense protection - \$100 Calendar Year Deductible
- · Includes cost-containment features
- Unlimited Maximum Benefits

MEDICAL PLAN 7

- Economical Comprehensive Major Medical expense protection — \$1,000 Calendar Year Deductible
- Unlimited Maximum Benefits

DENTAL PLAN

- Reasonable and Customary allowances for necessary care and treatment for dental health
- \$1,500 Maximum Dental Benefit per person in a Calendar Year

MEDICAL REIMBURSEMENT PLAN

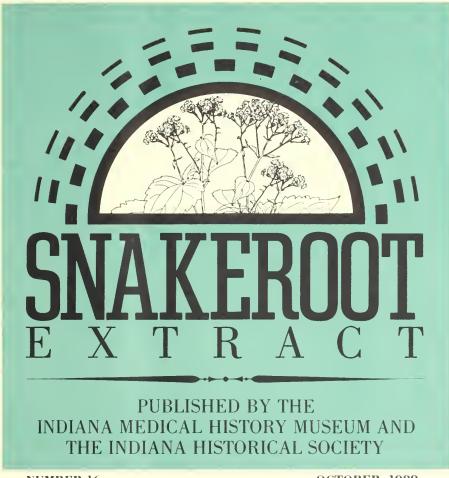
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or more information contact:

Earl W. Williams Professional Account Representative 11595 N. Meridian St., Suite 802 Carmel, Indiana 46032 (317) 573-6520 1-800-421-3020 Indiana 1-800-428-7105 Other States

Tom Martens Director, Health Insurance Administration Indiana State Medical Association 3935 North Meridian Street Indianapolis, Indiana 46208 (317) 926-4424 1-800-382-1721 Indiana



NUMBER 16

OCTOBER, 1989

SOCIETY'S ANNUAL HISTORY CONFERENCE FEATURES SESSIONS ON NURSING HISTORY

The history of American nursing will be the subject of the featured presentation and a morning-long session at the Indiana Historical Society's Annual Indiana History Conference to be held Saturday, 4 November 1989, at the Airport Hilton. The Black History Project and Medical History Committee of the Society are cooperating to present the morning session which focuses on public health nursing. Karen Buhler-Wilkerson, Ph.D., a faculty member of the University of Pennsylvania, and Earline Rae Ferguson, a graduate student at Indiana University, will be the session's keynote speakers. A documentary film on the history of American nursing will conclude the session. At the Society's noon luncheon, Fort Wayne native Peggy Seigel and three actresses will explore the experiences of Indiana women

nurses during the Civil War via a multimedia readers' theater presentation.

Although women have nursed their family members for centuries, professionalized nursing is a relatively new development. During the Civil War, mental health reformer Dorothea Dix headed the Union Army's nursing corps. Although she managed an efficient team of women nurses and provided them with some training, her work did not result in a permanent training school for nurses nor a permanent corps of army nurses. The first training schools opened in 1873 in New York, Boston, and New Haven,

(continued on Page 2)

Right: A district health nurse reports to the Indianapolis City Hospital's Dispensary, ca. 1900. Photograph in the collection of the Indiana Medical History Museum.

MUSEUM RECEIVES GRANTS

The Indiana Medical History Museum recently received several grants. Eli Lilly and Company gave the organization \$5,000 to open an entrance to the facility, separate from the entrance to Central State Hospital. This money will be used to purchase signage and install a guardhouse north of the museum. In late October museum visitors will be able to enter the museum from Vermont Street. Cook Incorporated, headquartered in Bloomington, donated \$1,000 to the museum this past summer. The money will be used to help defray the operating expenses associated with the museum's changing exhibition gallery (also to open in late October).

In August the Institute of Museum Services awarded the museum a Museum Assessment Program (MAP) grant of \$1,400. This grant program assists museums in performing institutional assessments. The money will allow the museum to engage a consultant from another museum to evaluate its programs and operations based on generally accepted museum standards. A museum assessment is the first step toward museum accreditation by the American Association of Museums.



SOCIETY FEATURES SESSIONS

(continued from Page 1)

patterned after the programs established by Englishwoman Florence Nightingale during the Crimean War. Nightingale believed nurses should be well disciplined, morally upright, mature, poised, and nonsentimental.

The first generation of trained nurses faced limited opportunities at hospitals. Until World War I, most hospitals employed nursing students or untrained nurses. Thus, the majority of nurses entered private duty nursing, in which they worked either in the patient's home or for a particular patient at a hospital (but not for the hospital). Some nurses became assistant superintendents or superintendents of nursing schools. These institutional positions tended to be very unstable, and wages varied considerably. Public health nursing offered the smallest, vet most promising opportunity. This branch of the profession evolved from the visiting nurse services offered the poor by philanthropic organizations. Hospitals provided care for the poor, but care was expensive and many agencies determined it was easier and cheaper to care for the poor in their homes. From 1900 to 1912 the number of public health nurses in the United States increased from 300 to 3,000. By 1938 their ranks had swollen to 19,390. These nurses worked for hospitals, private industry, insurance companies, and boards of health. They provided both advice on public



A group portrait of an early nursing class is one of the archival items featured in the film, "No Sentimental Women Need Apply." Photograph courtesy of Direct Cinema Limited.

hygiene, as well as nursing care. The demand for public health nurses declined, however, as the urban death rate decreased and chronic degenerative diseases replaced infectious diseases as the leading cause of death. Moreover, by the 1930s, hospitals became centers of research and state-of-the-art medical technology, and patients of all classes began choosing hospital care over home care.

In the morning session, Karen Buhler-Wilkerson in her talk, "False Dawn: The Rise and Decline of Public Health Nursing, 1900-1930," will provide an overview of public health nursing. Thereafter, Earline Rae Ferguson will focus upon "Indianapolis Black Nursing Care: A Community Affair, 1890-1920." Wilkerson is associate professor of Community Health at the University of Pennsylvania School of Nursing, Acting Program Director of the Community Health Nursing Program,

and Associate Director for the Center for the Study of the History of Nursing. She received her Ph.D. from the University of Pennsylvania. Her doctoral dissertation focused on public health nursing. She also holds a master's degree from the University of Pennsylvania and a master's degree in nursing from Emory University. She has published numerous articles on the history of public health nursing and has received a number of research grants. Earline Rae Ferguson is an Indiana University graduate student. She has done extensive research on black Indianapolis women's clubs and has published several articles on this subject. She won the Indiana University W. E. B. DuBois Prize for Afro-American studies. Ferguson has received several research grants and is currently working on a history of the Family Services Association of Indianapolis.

The session will conclude with a film, "No Sentimental Women Need Apply: The History of the American Nurse." The film is a production of Florentine Films, in cooperation with the WGBY/WGBH Educational Foundation, Hartford University, and Niagara University. The project was funded by a grant from the National Endowment for the Humanities and the Connecticut and Massachusetts Humanities councils. The film includes photographs, newsreels, movie and television clips, and interviews with nurses and scholars.

The Indiana Historical Society's annual luncheon and business (continued on Page 3)

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Snakeroot Extract is a joint publication of the Indiana Historical Society's Medical History Committee (315 West Ohio Street, Indianapolis, Indiana 46202) and the Indiana Medical History Museum (Old Pathology Building, 3000 West Washington Street, Indianapolis, Indiana 46222). The newsletter is mailed to members of both the committee and the museum.

Submit all items for publication in the newsletter and inquiries about membership information to Katherine Mandusic McDonell, Managing Editor, c/o Indiana Historical Society, 315 West Ohio Street, Indianapolis, Indiana 46202.

Snakeroot Extract derives its name from the white snakeroot, a plant that is significant in Indiana medical history. For years, a mysterious disease called milk sickness plagued early Hoosiers. There were many theories as to the disease's cause, but the actual cause remained unknown until the 1920s. At that time, the disease was traced to the white snakeroot plant or, rather, to the consumption of milk from cows that had eaten it. The plant contains the poison tremetol.

(continued from Page 2)

meeting will follow the morning session. Against a backdrop of period illustrations, portraits, and music. Fort Wayne native Peggy Seigel and three Fort Wayne actresses will present the experiences of Indiana women who served in the Civil War. This multimedia readers' theater presentation made its debut at the Allen County-Fort Wayne Historical Museum last spring.

Seigel, who has used letters, period accounts, and government reports to develop this presentation, was a 1988 recipient of the Indiana Humanities Council Summer Fellowship. She has studied at the University of Michigan, Georgetown University, and Butler University. Seigel has taught freshman English courses at the University of Indianapolis and at Marian College. Presently she serves as a full-time English instructor at Lutheran College of Health Professions in Fort Wayne. The production also includes three interpreters: Ranae Butler, Janice Furtner, and Dianne Shrubsall. Butler is an Auburn native who has an M.F.A. degree in theater from Brandeis University. She teaches



Harriet A. Colfax, Civil War nurse from Michigan City, Indiana. Photograph courtesy of Peggy Seigel.

acting at the Fort Wayne Youththeatre and the Fort Wayne Dance Collective and works as a freelance actress and director. Furtner has a degree in music performance from Indiana University and serves as the music director for Fort Wayne's public radio station WBJI. Shrubsall has degrees in English and education from Ball State University and St. Francis College. She serves as an associate faculty member at Indiana-Purdue University at Fort Wayne and as the director of drama for Trinity English Lutheran Church.

The Society's Annual History Conference begins at 9 a.m. on Saturday, 4 November 1989, at the Airport Hilton. For more information, contact the Indiana Historical Society, 315 West Ohio Street, Indianapolis, Indiana 46202 (317/232-1882).

MUSEUM HOSTS STATE MEDICAL ASSOCIATION SESSION, OPENS GALLERY

As part of its Annual Convention, the Indiana State Medical Association will hold its General Education Session at the Indiana Medical History Museum on Saturday, 28 October 1989, from 2:30 to 4:30 p.m. The museum's annual business meeting will open this session.

The Indiana State Medical Association has scheduled Eddie Grogan, Conner Prairie interpreter, to do his interpretation of "Dr. George Washington Campbell," the physician at Prairietown, Conner Prairie's recreated 1836 village. Dr. Campbell, using role-playing, or first-person interpretation, will tell of his adventures as a physician's apprentice and medical student, the illnesses

common in early nineteenth-century Indiana, and the treatments employed by early physicians.

Attendees will also tour the museum (including the behind-thescenes tour of the curatorial area), preview the museum's new changing exhibit gallery, and view the exhibit, "A TREK into Medicine's Past: Technology, Research, Experimentation, and Knowledge." The exhibit will explore how technology and medical knowledge affected the practice of medicine.

For more information, contact the Indiana Medical History Museum, 3000 West Washington Street, Indianapolis, Indiana 46222 (317/635-7329).

NEW VOLUNTEERS JOIN MUSEUM STAFF

Four new volunteers have joined the staff of the Indiana Medical History Museum. Volunteers Mary Lou Hagen, Mary Tiernan, Walter Tinsley, M.D., and Jilda N. Vargus bring to the museum a variety of diverse skills and interests.

Mary Lon Hagen holds a master's degree in occupational education from Indiana University and a bachelor's degree in supervision from Purdue University. She has worked as an instructor in nutrition and food services at St. Philip's College in San Antonio, Texas, and Indiana Vocational Technical College in Indianapolis and has also been food service manager of the Indianapolis Life Insurance Company. She has volunteered for the Indiana University Foundation, Westview Hospital, and the Avon Christian Church. She is a native of Indianapolis. At present, she is helping the museum organize its membership and development files.

Mary Tiernan is a native of New York City and lived there until 1964 when she and her family moved to Indianapolis. A registered nurse, she has taught nursing and worked as an industrial nurse in New York City. Tiernan is helping the museum organize its accession and artifact records.

Walter Tinsley, M.D., recently joined the museum after retiring as an anesthesiologist at Methodist Hospital. He is a graduate of Indiana University School of Medicine and has long had an interest in the history of medicine. His wife, Jean, is also a volunteer at the museum. Dr. Tinsley is helping to catalog the medical and surgical equipment in the museum's collection.

Jilda N. Vargus, a premedical student at Brown University, volunteered at the museum this past summer. She has written short histories of bacteriology, histology, and clinical chemistry for inclusion in a training manual for volunteers. Vargus also worked at Manpower Temporary Services during the summer and volunteered at the Children's Museum.

MUSEUM HOSTS CONFERENCE ON PLAGUES

The Indiana Medical History Museum will host the opening reception and keynote address for the Indiana University/Purdue University at Indianapolis Humanities Institute's conference, "The Historical Impact of Plagues from Early History to Modern Day." The conference will be held on 26 and 27 October 1989.

Frances Dodson Rhome, director of the IUPUI Humanities Institute and conference organizer, notes, "the subject of the conference is of particular interest at this time in light of the current concern regarding AIDS." "To review historical instances of other calamities," she adds, "offers a unique opportunity to Study human behavior, governmental leadership and responses, and the effects of these calamities upon an entire society."

The reception and keynote address



Above: A seventeenth-century physician wears protective clothing to shield him from the plague.

will be held at the museum at 4 p.m. on Thursday, 26 October 1989. Ann G. Carmichael, M.D., Ph.D., associate professor of history at Indiana University in Bloomington and author of *The Plague and Poor in* Renaissance Florence (Cambridge University Press, 1986), will be the keynote speaker for the conference. She will discuss "The Last Past Plague: The Meaning of Collective Memories in the History of Epidemics." On Friday, the IUPUI Humanities Institute will present eight workshops covering subjects such as social responses to plagues, related social problems of plagues, modern approaches to plagues, plagues of the twenty-first century, and the depiction of plagues in art and music.

The conference is open to the public. For more information, contact Dr. Frances Dodson Rhome, Director, IUPUI Humanities Institute at 317/274-2447.



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References:

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cancer corner

William M. Dugan Jr., M.D. Indianapolis

Cancer research continues to be a high priority at tertiary facilities in Indiana. Lawrence H. Einhorn, M.D., of the Indiana University School of Medicine has turned his research efforts to breast cancer.

Historically, patients with metastatic breast cancer often have responded to chemotherapy but were not cured. The procedure being tested by Dr. Einhorn is a combination of high-dose chemotherapy followed by autologous bone marrow transplantation. Dr. Einhorn is seeking additional patients for the study. Eligibility requirements include: metastatic breast cancer; age 55 or younger; and no previous chemotherapy unless adjuvant chemotherapy. Patients with 10 or more positive lymph nodes also are eligible to receive this therapy as primary adjuvant chemotherapy.

Physicians who want to have patients considered for this study can call Dr. Einhorn at (317) 274-0920.

W. Page Faulk, M.D., and Hava Harats, M.D., of the Center for Reproduction and Transplantation Immunology at Methodist Hospital have been working on a way to overcome the resistance of cancer cells to a widely used anticancer drug, Adriamycin. This resistance poses a serious challenge in cancer treatment, since the administration of large doses of Adriamycin can damage the

heart muscle and cause other serious complications. The treatment alternative is to use a less effective drug

Drs. Faulk and Harats have discovered that Adriamycin resistance in human leukemia cells can be overcome by delivering the drug through a route that involves specific receptors on the surface of resistant cells. Transferrin was coupled with Adriamycin to form a transferrin-Adriamycin complex. This technique requires less drug for sensitive cells and appears to kill resistant cancer cells by delivering the drug through a particularly vulnerable route. For further information about this project, call Dr. Faulk at (317) 929-5950.

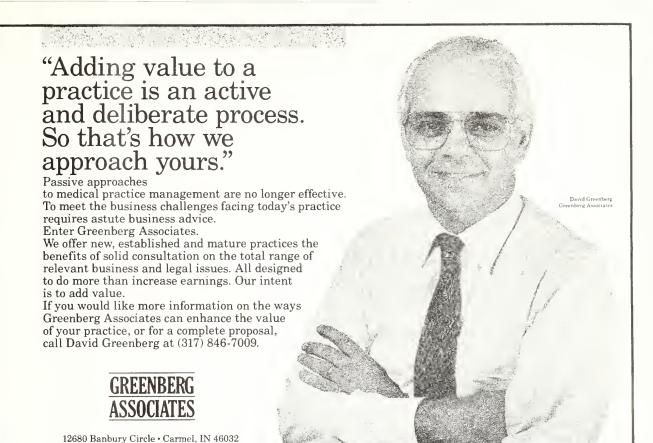
The Journal of Palliative Care has begun quarterly publication. Since 1985, this Canadian journal has consistently published high-quality articles about caring for the terminally ill. The Center for Bioethics, Clinical Research Institute of Montreal, has sponsored this forum for the discussion of controversial issues in palliative care. For information about this journal, write David J. Roy, editor in chief, Journal of Palliative Care, 110 Pine Ave. West, Montreal, Quebec, H2W 1R7.

The Indiana Medical Oncology Society hosted a regional oncology meeting at the Holiday Inn, O'Hare Airport, in Chicago. Lloyd Everson, M.D., of Indianapolis, chaired the meeting, which featured a variety of speakers on the problems and challenges for medical oncologists. Among those speaking were John Young, M.D., president-elect of the American Society of Clinical Oncology; Lee Mortenson, M.S., executive director of the Association of Community Cancer Centers; and Roger Winn, M.D., M.D. Anderson Cancer Institute.

The discussions brought about a resolution of the conference concerning the overall direction of medical oncology in the Midwest. William M. Dugan, M.D., and Lex Cavins, M.D., both of Indianapolis, were other representatives of the Indiana Medical Oncology Society who attended.

The Oncology Nursing Society (ONS) has begun a national campaign against the tobacco industry. The 101st Congress has extensive anti-tobacco legislation pending, and to combat the extensively financed campaigns of the tobacco industry, the ONS is implementing its own lobbying effort. The ONS Obituary Card will be sent to U.S. senators and representatives by a physician or nurse to notify them that a patient has died of a smoking-related malignancy.

The pre-printed cards, available to physicians and nurses, can be obtained from your local ONS chapter or by writing Kerry Harwood, M.S.N., ONS Coalition on Smoking or Health, 1016 Greentree Road, Pittsburgh, PA 15220-3125.



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auxiliary report

Lura Stone ISMA Auxiliary president

The ISMA Auxiliary will visit the Ruth Lilly Center for Health Education in Indianapolis Saturday, Oct. 28, from 9:30 to 11:30 a.m. as part of the annual ISMA convention. A trolley will leave the Westin Hotel at 9 a.m. Every physician spouse attending the convention is invited to join this tour.

The Ruth Lilly Center for Health Education is opening its doors to the public this month for the first glimpse of the \$1.1 million state-of-the-art health exhibits. The Richard Rush Studio in Chicago, which created underwater exhibits for Walt Disney World's Epcot Center, is responsible for these exhibits. Each of the six exhibits is housed in a separate theater located within the Lilly Center. The exhibits have been created to assist in teaching nutrition, health, sports fitness, life begins and drug education and include a transparent anatomical model.

The center's curriculum committee has worked "diligently to design comprehensive health programs emphasizing physical, mental and emotional health. The committee believes that educating children and adults to live a healthy lifestyle includes providing the knowledge base for making responsible choices in all aspects of life. Recognizing the significance of health-related problems, the center will be a unifying force among the home, school and community to provide cooperative efforts to promote good health for people of all ages.

"The center will combine the best of the classroom, theater and the exhibit maker's skills – exciting instruction, drama and ingenious electronics. Highly qualified instructors will teach in specialized theater areas utilizing sophisticated exhibits, working models and audiovisuals.

"The committee with representatives from medicine, education, psychology and business met regularly for over a year to determine the philosophical basis of the curriculum, identify major program concepts and determine specific program offerings. Programs will draw major concepts for the areas of growth and development, mental and emotional health, nutrition, family life education, personal health, substance abuse and safety. These major areas are consistent with the new Indiana Department of Education Health Proficiencies. Themes related to self-concept, personality development, family relations and responsibilities, and coping and communication skills will be included in the programs.

"Initially, the center will offer different programs for each level from kindergarten through grade nine. Some will be general in nature while others will focus on a particular area, i.e. drugs, life begins, etc. The programs are designed to inspire rather than alarm and will build an appreciation for the human body, mind and spirit. The committee will soon begin program development for high school students and adults. Nutritional awareness, physical fitness, personal health, prevention of drug abuse and safety will be included."

This statement from the curriculum committee was taken from the fall 1987 newsletter, *Health Beat*, from the Ruth Lilly Center.

The auxiliary is looking forward to hosting this tour because of the curriculum committee's plans and philosophy and the opportunity to see state-of-the-art exhibits. Suzanne Dahling, ISMA convention coordinator of spouse activities, will greet the group with coffee and rolls. AMA president Alan Nelson, M.D., may speak to the auxiliary during the Ruth Lilly Center tour.

Encourage your spouse to ride the trolley with us for an informative morning tour. We will return for the IMPAC luncheon.

The ISMA Auxiliary also hosted a legislation seminar Oct. 11 at the Holiday Inn in Plymouth. □

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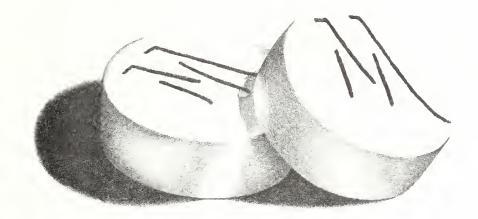
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people

Dr. Hans R. Wilbrandt, an Indianapolis ophthalmologist, was a featured speaker at the Canadian Rockies Symposium in Kananoskis, Alberta, Canada; he presented a paper on "Mini-Maxi Capsulorhexis for Intercapsular Phacoemulsification."

Dr. John H. Abrams, an Indianapolis ophthalmologist, lectured at the 41st annual scientific assembly of the Indiana Academy of Family Physicians; his topic was "Medical and Surgical Diseases of the Aging Eye."

Dr. William H. Beeson of Indianapolis conducted an instructional course on advancements in facelift and blepharoplasty surgery at the Fifth International Symposium on Facial Plastic Surgery in Toronto, Canada.

Dr. Gary T. Raflo, an Indianapolis ophthalmic plastic and reconstructive surgeon, publishes a newsletter titled *Insights*; to receive a copy, call (317) 573-9966 or 1-800-937-9966.

Dr. Steven H. Nichols, an Evansville pathologist, has been appointed president of the medical staff at Welborn Baptist Hospital in Evansville; other officers are Dr. O. Monty Lackey, an obstetrician and gynecologist, president-elect; Dr. Richard T. Swanson, an internist, secretary; and Dr. Juan C. Cabrera, a child psychiatrist, treasurer.

Dr. Thomas A. Jones and Dr. Patrick L. Foley, both of Indianapolis, were co-recipients of the A. Alan Fischer Award from the Indiana Academy of Family Physicians. Dr. Marvin L. McClain of Scottsburg was named the academy's Family Physician of the Year, and Dr. Paul Siebenmorgen of Terre Haute received the Lester D. Bibler Award.

Dr. Richard W. Cross, a Warsaw obstetrician and gynecologist, attended an advanced course in screening mammography in Stockholm, Sweden.

Dr. David E. Ross of Gary received the 1989 Book of Golden Deeds Award from the Merrillville Exchange Club; he is medical director of the Gary Methodist Hospital mobile intensive care system.

Dr. James B. Johnson and Dr. Robert J. Marvel, both of Greencastle, were honored at a retirement tea at Putnam County Hospital.

Dr. Max N. Hoffman was named medical director of Covington Manor Health Care Center.

Dr. Vincent J. Hanneken retired Aug. 1 after 34 years as a family practice physician in Wabash.

Dr. Robert W. Kohne observed 35 years as a Lafayette family practice physician during a June open house.

Dr. Stanley R. Adkins, a Columbus internist, was elected vicepresident of the Indiana affiliate of the American Heart Association.

Dr. Richard T. Miyamoto, professor and chairman of the Department of Otolaryngology-Head and Neck Surgery at the Indiana University School of Medicine, has been appointed to the charter Advisory Council of the National Institute of Deafness and Other Communication Disorders.

Dr. William O. Irvine, an Indianapolis orthopedic surgeon, has returned to active practice in Indianapolis after completing an Adult Foot and Ankle Fellowship with Dr. James Sammarco in Cincinnati; he will specialize in the diagnosis and treatment of adult foot and ankle problems.

New ISMA members

Donna J. Blair, M.D., Bluffton, obstetrics/gynecology.

Kenneth W. Buehlman, M.D., Vincennes, pediatrics.

Venkatesan R. Gorantla, M.D., Fort Wayne, neonatal-perinatal medicine.

George J. Grcevich, M.D., Valparaiso, cardiovascular diseases. Dianna L. Griggs, M.D.,

Martinsville, internal medicine.

Jeffrey B. Hanson, M.D., South Bend, pediatrics.

Bruce J.A. Kerr, M.D., Bluffton, obstetrics/gynecology.

Debra B. Ladd, M.D., Seymour, anesthesiology.

Nancy R. Miles, M.D., Shelbyville, internal medicine. Laurette C. Robey, M.D.,

Bluffton, obstetrics/gynecology. Elliot H. Stokar, M.D., Munster

Elliot H. Stokar, M.D., Munster, internal medicine.

Melvin C. Wright, M.D., Indianapolis, general surgery.

Residents

William I. Babchuk, M.D., Kokomo, radiology.

Wendy L. Byers, M.D., Indianapolis, internal medicine.

Allison B. Donaldson, M.D., Indianapolis, neurology.

James F. Downing, M.D., Indianapolis, internal medicine.

Bruce A. Gelinas, M.D., Beech Grove, internal medicine.

Mark A. Haggenjos, D.O., Terre Haute, family practice.

J. Brad Kallmyer, M.D., South Bend, family practice.

Helen J. Kinsey, M.D., Columbus, obstetrics/gynecology.

Steven L. Kinsey, M.D., Columbus, internal medicine.

Anita R. Martin, M.D., Indianapolis, anatomic/clinical pathology.

people

Douglas A. Neeld, M.D., Fort Wayne, allergy.

Robert A. Predaina, M.D., Indianapolis, anesthesiology.

Mark E. Ritter, M.D., Kokomo, internal medicine.

William M. Roper, M.D., Marion, general practice.

Christopher P. Steidle, M.D., Fort Wayne, urological surgery. James D. Steigmeyer, M.D., Fort Wayne, pediatrics.

Mary E. Tisserand, M.D., Evansville, dermatology.

Cathi E. Weatherly, M.D., Anderson, obstetrics/gynecology.

Physician Recognition Award recipients

The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.

Alig, Vincent B., Indianapolis Chu, Johnson C., Walton Clark, Michael A., Indianapolis Duque, Fausto, Jeffersonville Epstein, Jack R., Fort Wayne Fischer, Charles K., Evansville Gries, Richard L., Haubstadt Haas, Ray A., Greenfield Jones, Rhys D., Carmel Lee, Chung-Seng Fort Wayne Lucas, John T., Fort Wayne Lucas, John T., Fort Wayne

Lucas, Owen H., Chesterton McCoy, Melvin H., Evansville Palmer, Barron M., Hammond Philbrook, Seth S., LaPorte Rains, Daniel P., New Castle Rustagi, Prevesh K., Fort Wayne Saalwaechter, John J., Lebanon Salomon, Jaime A., Indianapolis Sermersheim, Michael A., Indianapolis Speicher, Bruce W., South Bend Stephens, James E., Brazil



Tony Koopman, M.D., a family practice resident at St. Vincent Hospital in Indianapolis, talks with Mark Bevers, M.D., and Rosemary Weir, M.D., family practice physicians in Seymour, at the Practice Opportunity Fair. The Aug. 30 event, sponsored by the Resident Medical Society and the Indiana State Medical Association, is designed to acquaint physicians with hospitals and other health care facilities that have practice opportunities.



"I suggest you get your potassium from several sources rather than just bananas."

news briefs

PRICE formed to meet needs

Physicians for Research in Cost-Efficiency (PRICE) is a new organization designed to meet the challenge of the turbulent times ahead for health care professionals. Physician participation in the rapidly changing medical arena will be essential to maintain quality patient care in an atmosphere of cost containment.

The goal of the organization is to facilitate communication about low-cost quality medical information between physicians involved in research, academics, administration and practice. A newsletter will provide information on research efforts, political trends and, most important, clinical observations and practice innovations for the practice of cost-effective medicine. In addition, PRICE will serve as a clearinghouse for conferences, new job opportunities and training options for physicians interested in cost issues in medicine.

Physicians can attain membership by submitting a letter of interest and a curriculum vitae, so physicians interested in similar work can be connected with one another. There are no fees and no financial sponsors. Address correspondence to David J. Shulkin, M.D., PRICE president, 926 Bellefonte St., Pittsburgh, PA 15232 or call (412) 682-8015.

HMSS to meet Nov. 30

Medical staffs from across the country are encouraged to elect a medical staff representative to participate in the American Medical Association Hospital Medical Staff Section (HMSS) Assembly meeting Nov. 30 through Dec. 4 at the Sheraton Waikiki Hotel in Honolulu.

The HMSS Assembly provides medical staffs with a unique opportunity to discuss and participate in the policymaking process of the AMA. For information, call (312) 645-4754 or 645-4761.

Commission endorses manual

The Nebraska Academy of Family Physicians has published *An Organizational Manual for the Physicians' Office Laboratory*. The manual has been endorsed by the American Academy of Family Physicians Commission on Health Care Services.

The manual includes an up-to-date discussion of CLIA-88 as well as a detailed outline for establishing an office lab that will meet federal regulations. To purchase the manual, which is \$29.95, write NAFP, 401 N. 117 St., Suite 202, Omaha, NE 68154.

Self-study programs available

Because it is essential for office staffs to have complete knowledge of insurance processing and coding, the American Medical Association now offers two self-study audiocassette and workbook programs to refine office staffs' skills and to train new staff members.

Insurance Processing, which explains the role of third-party payors in health care reimbursement, and Insurance Coding, which explains CPT procedural codes, are available for \$40 each. AMA members will receive a 20 percent discount. To order a copy, contact the AMA, Book and Pamphlet Fulfillment, P.O. Box 10946, Chicago, IL 60610, 1-800-826-6895.

AIDS forum begins Nov. 19

The American Medical Association and 52 other health-related organizations are sponsoring the

"Fourth National Forum on AIDS and Hepatitis B" Nov. 19 through 21 in Washington, D.C. The forum will examine strategies to control the spread of these bloodborne diseases by hospitals, laboratories and health care professionals.

For more information, contact the National Foundation of Infectious Diseases, 4733 Bethesda Ave., Suite 750, Bethesda, MD 20814, (301) 656-0003.

Diagnostic codes required

The Health Care Financing Administration agreed to direct carriers not to deny claims for improperly ICD-9-CM coded diagnoses on Part B claims until at least Jan. 1, 1990.

This decision, made at the American Medical Association's request, means physicians will have an additional three months to become more familiar with the specifics of the coding guidelines. Oct. 1 was the "grace period" deadline for submitting assigned claims with an ICD-9-CM diagnostic code.

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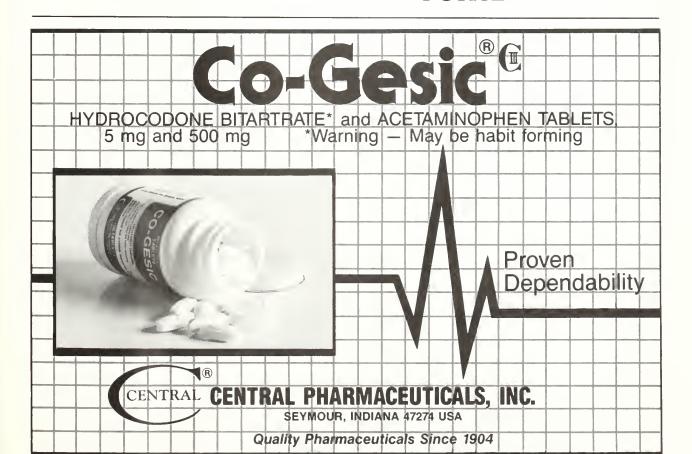
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obituaries

Ko Kuei Chen, M.D.

Dr. Chen, 90, San Francisco, Calif., died Dec. 12, 1988.

He was a 1927 graduate of Johns Hopkins University Medical School and had been a professor of pharmacology at the Indiana University School of Medicine.

Dr. Chen, a native of Shanghai, China, became a U.S. citizen in 1947.

Hyman L. Cohen, M.D.

Dr. Cohen, 63, a former Valparaiso neurologist, died July 21 in Fort Wayne.

He was a graduate of the University of Illinois College of Medicine and an Army veteran of World War II.

Dr. Cohen was a member of the American Academy of Neurology, the American Physicians Fellowship and the American Electroencephalographic Association and was certified by the American Board of Psychiatry and Neurology.

Ellery T. Drake, M.D.

Dr. Drake, 75, a retired Martinsville surgeon, died Aug. 23.

He was a 1942 graduate of the Harvard Medical School and was a first lieutenant on the Navy medical staff in World War II.

Dr. Drake practiced at the Morgan County Hospital from 1963 until 1974, when he joined the Social Security Administration as a medical adviser. He was an

internationally known collector of early phonographs and owned the Midwest Phonograph Museum in Martinsville.

Samarjit S. Ghuman, M.D.

Dr. Ghuman, 45, a cardiovascular and thoracic surgeon, died Aug. 5 at his home in Valparaiso.

He earned his medical degree in India and served residencies at UMDNJ-New Jersey Medical School and the Yale University School of Medicine.

Dr. Ghuman was affiliated with St. Anthony Hospital in Crown Point, St. Anthony Hospital in Michigan City and Porter Memorial Hospital in Valparaiso.

Weston A. Heinrich, M.D.

Dr. Heinrich, 77, died July 25 at Deaconess Hospital in Evansville. He was a physician and surgeon in Evansville for more than 40 years.

He graduated from the Northwestern University Medical School in 1942 and served as a captain with the 125th Evacuation Hospital in the European Theatre during World War II.

Dr. Heinrich, as president of the Medical Education Development Committee of Evansville, spearheaded the move for Evansville to be the site of a two-year medical school program affiliated with Indiana University. He was a past president of St. Mary's Medical Center medical staff and the Indiana Chapter of the American

College of Surgeons. He was a member of the American College of Surgeons and the Industrial Medical Association and was certified by the American Board of Surgery.

Leo R. Nonte Sr., M.D.

Dr. Nonte, 72, a retired Evansville surgeon, died Aug. 5 at Deaconess Hospital.

He was a 1941 graduate of the Indiana University School of Medicine and served in the Army's 58th Evacuation Hospital during World War II. He received a Bronze Star from Gen. Douglas MacArthur.

Dr. Nonte, a member of the American College of Surgeons, practiced medicine in Evansville from 1950 to 1983.

William L. Zink, M.D.

Dr. Zink, 33, a Madison otolaryngologist, died Aug. 6.

He was a 1981 graduate of the Indiana University School of Medicine.

Dr. Zink served residencies at Methodist Hospital in Indianapolis and the Indiana University Medical Center. He joined the Madison Clinic in 1986 and was on the staff at King's Daughters Hospital in Madison. He was a member of the American Academy of Otolaryngology–Head and Neck Surgery, the American Academy of Facial Plastic and Reconstructive Surgery and the American College of Surgeons.

classifieds

CAREER OPPORTUNITIES for a general surgean and a uralogist, BC/ BE, ta jain the medical staff of an active, acute care VA Medical Center. Attractive benefit package includes 30 days paid vacation, sick leave, educational leave, malpractive caverage, health and life insurance and retirement plan. Surraunding community af 300,000 offers excellent educational, cultural and recreational apartunities. Cantact V. N. Vitalpur, M.D., Chief af Staff, Veterans Affairs Medical Center, Fort Wayne, IN 46805, (219) 426-5431, ext. 311. An EOE.

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PHYSICIAN – Pragressive narthern Indiana carrectianal facility seeks state-licensed physician with goad administrative skills. Negatiated salary far cantract service or regular state employment. Emplayees enjoy excellent benefits. Far mare infarmatian, cantact: Anthony Metzcus, Health Care Administrator, Westville Carrectianal Center, P.O. Bax 473, Westville, IN 46391, (219) 785-2511, ext. 488. EOE.

WISCONSIN: Opportunities for BC/ BE family practice physicians in Plymauth, a vibrant cammunity 50 miles north af Milwaukee. Cansider existing practices af ane, twa ar faur physicians as they expand to meet the needs of a grawing cammunity. Faur-seasan climate in an area featuring gaad schaals, pleasant people, strong ecanamic development, law unemplayment and a gaad lifestyle. Campensatian package includes salary guarantee, malpractice insurance, health insurance, relacation expenses and mare. Cantact Jim Williams, Vice President, Valley View Medical Center, 901 Reed St., Plymauth, WI 53073. Call callect (414) 893-1771.

WISCONSIN: Oppartunity far BC/BE general surgean ta associate with busy BC surgean in general, vascular and endoscapic practice serving two haspitals. Practice lacated in Plymouth, a vibrant cammunity lacated 50 miles narth of Milwaukee. Faur-seasan climate in an area featuring gaad schaals, pleasant people, strang ecanamic development, law unemplayment and a gaad lifestyle. Salary guarantee and fringe benefits with early partnership. Cantact Jim Williams, Vice President, Valley View Medical Center, 901 Reed St., Plymauth, WI 53073. Call callect (414) 893-1771.

INTERNAL MEDICINE / OB-GYN / FAMILY PRACTICE – Several attractive appartunities in Indiana, Wiscansin and Michigan (many an lakes) far BC/BE physicians. Cantact Bab Strzelczyk ta discuss yaur practice requirements and these pasitians. STRELCHEK & ASSOCIATES, INC., 12724 N. Maplecrest Lane, Mequan, WI 53092, 1-800-243-4353.

INDIANAPOLIS, INDIANA – MetraHealth, a divisian af Methadist Haspital, is seeking baard-certified or baard-eligible physicians far the departments af emergency/urgent care, internal medicine and family practice. We are an established

multi-specialty physician graup affering an attractive campensatian package and prafessianal liability. Please cantact: May Katz, Physician Recruitment, MetroHealth, P.O. Bax 1367, Indianapalis, IN 46206, (317) 929-2711.

GENERAL (OR) SPECIALTY/GENERAL PEDIATRICIAN far 70-physician multi-specialty group in mid-narth Indiana. BC/BE individual ta jain established pediatric department af a rapidly expanding clinic. Seven pediatricians now invalved in practice. Cammunity's superiar schaals and excellent ecanamic environment a banus. Big Ten university. One hour fram Indianapalis and twa haurs fram Chicaga. Excellent compensation and benefit pragram and an appartunity ta affiliate with leaders in pediatric medicine in this area af the state. Send CV ta: R. Beesley, M.D., 2600 Greenbush St., Lafayette, IN 47904. (317) 448-8000 callect.

PERINATOLOGIST – Pragressive Midwest, 829-bed specialty referral center with mare than 3,400 deliveries a year is seeking a full-time baard-certified/baard-eligible perinatalagist ta develop new program. Faur haspital-based neanatologists present. OB/GYN residency pragram in place. Oppartunities available far clinical faculty appaintment at lacal medical schaal. Excellent benefits. Salary is negatiable and very campetitive. Interested applicants should send a CV ta: Ranald G. Blankenbaker, M.D., Vice President far Medical Affairs, Medical Affairs Office, St. Vincent Haspital and Health Care Center, 2001 W. 86th St., Indianapolis, IN 46260. EOE.

occupational Medicine: BC/BE ta jain a pragressive arganization praviding health promation (i.e., wellness) pragrams ta carporate and public clients. Please send canfidential resume ta Dr. Carl Otten, Persannel Develapment Graup, 222 E. Ohia St., Suite 800, Indianapalis, IN 46204.

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FAMILY PRACTICE OPPORTUNITY – BC/BE; north central Indiana; flexible ER schedule for fully accredited county hospital in return for exceptional income, opportunity to set up own zero overhead practice, comprehensive benefits with all factors negotiable to meet specific practitioner needs. Send CV or contact collect: James Wyatt, Corporate Staffing Resources, 420 S. Fourth St., Elkhart, IN 46516, (219) 522-2396.

CENTRAL INDIANA – Physicianowned emergency group accepting applications for full-time, career-oriented emergency physicians. Flexible work schedules and excellent benefit package. Parttime and directorship positions also available. Send CV or contact Sherry Bussel, Midwest Medical Management, Inc., 528 Turtle Creek, N. Drive, Suite F-4, Indianapolis, IN 46227, (317) 783-7474.

OB/GYN RESIDENCY PROGRAM DIRECTOR - This 829-bed specialty referral center with 3,400+ deliveries a year, including many high risk, is seeking a full-time director (part-time private practice is available) for its OB/GYN residency program. Applications for boardcertified obstetrician/gynecologists or board-certified/board-eligible perinatologists or other subspecialties will be accepted. Teaching and administrative experience is preferred. Opportunities exist to receive a faculty appointment to the Department of OB/GYN at the Indiana University School of Medicine. Salary and benefits are negotiable and very competitive. Interested applicants should send a current curriculum vitae to: John Payne, M.D., Chairman, Search Committee for Director of OB/GYN Residency Program, c/o Medical Affairs Office, St. Vincent Hospital and Health Care Center, 2001 W. 86th St., Indianapolis, IN 46260. EOE.

PHYSICIANS NEEDED – Family practice, internal medicine, oncology, endocrinology, neurosurgery, neu-

rology, general surgery, orthopedic surgery. Group practice, solo or urgent care settings available through our hospital network located in Macon and serving all of middle Georgia. Your practice will be located 80 miles south of Atlanta, in a growing family-oriented community, where you can avoid traffic and enjoy a rewarding professional career. Please call Stephen Wofford at (912) 741-6283 for a confidential consultation or write P.O. Box 4627, Macon, GA 31208.

FAMILY PRACTICE - Hospital-sponsored clinic opportunity. Dynamic, growth-oriented hospital in beautiful north central Wisconsin is seeking two family physicians for a new clinic facility currently being constructed. The administrative burdens of medical practice will be minimized in this hospital-managed clinic. The hospital has committed to an income and benefit package that is significantly higher than similar opportunities. Package includes base income, incentive bonus, malpractice, disability, signing bonus and student loan reduction/forgiveness program. All relocation costs will be borne by the hospital. Please contact: Dan McCormick, President, Allen McCormick, France Place, Suite 920, 3601 Minnesota Drive, Bloomington, MN 55435, (612) 835-5123.

FAMILY PHYSICIAN, general practitioner or internist wanted to join three-man group in west central Indiana. Competitive salary and percentage arrangement. Partnership arrangement possible after one year. Contact Frank Swaim, M.D., Parke Clinic, 503 Anderson St., Rockville, IN 47872, (317) 569-3182.

ILLINOIS – Great opportunity for an experienced emergency physician to join a career emergency group practicing in western and southwestern suburbs of Chicago.
Please contact Debbie Aber (312) 327-0777 or send your CV to: Emergency Medicine S.C., 2142 N.

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EMERGENCY PHYSICIANS WANTED -For Fayette Memorial Hospital in Connersville, Ind. Will consider all physicians with emergency medicine experience. 15,000 visits/year. Fee-for-service group does its own billing. Hourly compensation based on training, experience and qualifications. Excellent fringe benefit package includes, life, health, disability and malpractice insurance plus CME allowance, ACEP and ISMA dues, pension plan and potential bonus. Contact: Michael D. Bishop, M.D., FACEP, Emergency Care Physicians, 640 S. Walker St., Suite A, Bloominaton, IN 47403, (812) 333-

INDIANA – Excellent opportunity for an experienced physician to join a career emergency group practicing in northwestern Indiana near Chicago. Please contact Debbie Aber (312) 327-0777 or send your CV to: Emergency Medicine S.C., 2142 N. Sedgwick St., Chicago, IL 60614.

INTERNIST BE/BC – North Shore Internal Medicine, PC is seeking an energetic general internist to enjoy the benefits of a rapidly expanding practice. New office close to hospital. Michigan State Medical School Campus. Send resume to 2420 First Ave. South, Escanaba, MI 49829, (906) 786-1563.

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VASOTEC (ENALAPRIL MALEATE MSD)

VASOTEC is available in 2.5-mg, 5-mg, 10-mg, and 20-mg tablet strengths

Contraindications: VASOTEC * (Enalapril Maleale, MSO) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warrings: Angioedema Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients related with ACE inhibitors, including VASOTEC. Insuchcases, VASOTEC shouldbe promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been continued to the face and lips the condition has generally resolved without treatment, although antihistamines have been useful in reflexing symptoms. Angioedema associated with flaryngest edema may be fatal. Where there is involvement of the tongue, glottis, or any any kitely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mt. to 0.5 mt.), should be promptly administered. (See AOVERSE REACTIONS.)

Hypotenson. Excessive hypotenson is rare in uncomplicated hypotensory patients treated with VASOTEC alone. Heart failure patients given VASOTEC alone. Heart failure patients given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed, caution should be observed when initiating therapy. Geo DOSAGE ANO AOMINISTRATION? Patients a risk for excessive hypotensions or manually and interestic contractive that a patient is a contractive to a contractive that a patient is related to a contractive that a patient is a contractive to a contractive that a patient is a contractive to a contractive that a contracti

Precautions: General Impaired Renal Function. As a consequence of inhibiting the renin-angiolensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASO/TEC, may be associated with diiguria and/or progressive azolemia and rarely with acute renal lailure and/or death

In clinical studies in hyperlensive patients with unitateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalaprit and/or diuretic therapy. In such patients, renal function should be monitored during the first law under of therapy. lew weeks of Iherapy

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concominantly with a diureit. This is more takely to occur in patients with preexisting renal impairment. Oosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Iron and/or discontinuation of the duretic and/or VASOTEC may be required
Evaluation of patients with hypertension or heart failure should always include assessment of renal
function. (See DOSAGE AND AOMINISTRATION.)

Hyperkalemia. Elevated serum potassium (> 5.7 mEq.(L) was observed in approximately 1% of hypertensive patients in
clinical finals. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a
cause of discontinuation of liherapy in 0.28% of hypertensive patients. In clinical finals in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk lactors for the development of hyperkalemia include renal insufficiency, diabetes meltitus, and the concomitant use of polassium-hyparing duretics, potassium supplements, and/or potassium-containing sall substitutes, which should
be used cautiously, if at all, with VASOTEC. (See Drug Interactions.)

Surgery/Anesthesia. In patients undergoing major surgery or during anesthesia with agents that produce hypotension,
considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients Information for Patients
Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril Patients should be so advised and fold to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, longue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician
Hypofension Patients should be cautioned to report lightheadedness especially during the first tew days of therapy if actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing

physicián

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure, patients should be advised to consult with the physician.

Hyperkalemia Patients should be told not to use sall substitutes containing potassium without consulting their Physician

Neutropenia Patients should be fold to report promptly any indication of infection (e.g., sore throat, lever) which may be

a sign of neutropenia.

NOTE. As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. If is not a disclosure of all possible adverse or intended

Drug Interactions

Drug interactions on Directic Therapy. Patients on directics and especially those in whom directic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the direction increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the directic, provide close medical supervision after the initial dose for all least two hours and until blood pressure has stabilized for at least an additional hour (See WARNINGS and ODSAGE AND ADMINISTRATION).

Agents Causing Revin Release. The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause remainedees (on direction).

cause renin release (e.g., diurelics)

Other Cardiovascular Agents VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methyl-dopa, nitrates, calcium-blocking agents, hydratazine, prazosin, and digoxin without evidence of clinically significant

Agents Increasing Serum Potassium VASOTEC attenuates potassium loss caused by thiazide-type duretics Potassium-sparing duretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, it concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

VASOTEC Lithium. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon disconlinuation of both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be monitored frequently. Pregnancy—Category C. There was no fallotix city or teratogenicity in rats treated with to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not leatogenic in Tabbilis. However, maternal and fetal foxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal foxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal foxicity seen at doses of 3 and 10 mg/kg/day, but not all 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the placenta following administration of labeled enalapril to pregnant hamsters

There are no adequate and well-controlled studies of enalapril in pregnant women However, data are available that show enalapril crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC* (Enalapril Maleate, MSO) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

potential risk to the leads.

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome inadvertent exposure limited to the first frimester of pregnancy has not been reported to affect fetal outcome adversely Fetal exposure during the second and third frimesters of pregnancy has been associated with fetal and neonatal morbidity.

and moritality

When ACE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing decreased renal function in the letus. Infants exposed in utero to ACE inhibitors should be closely observed for hypotension, oligiquis, and hyperkalemia. If oliquin accurs, aftention should be directed toward support of blood pressure and renal perfusion with the administration of Illiuds and pressors as appropriate. Problems associated with prematurity such as patent ductus arterious have occurred in association with maternal use of ACE inhibitors, but it is not clear whether they are related to ACE inhibition, maternal hypertension, or the underlying prematurity.

Nursing Mothers Milk in lactating rats contains radioactivity following administration of **C enalaprit maleate. It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk. Pecause Pedatric Use. Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

HYPERTENSION The most frequent clinical adverse experiences in controlled trials were headache (5.2%), dizziness (4.3%), and faltigue (3%).

(4.3%), and values (3%). Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%). HEART FAILURE. The most frequent clinical adverse experiences in both controlled and uncontrolled trials were dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

olarmea (21%)
Other adverse experiences occurring in greater than 1% of patients freated with VASOTEC in both controlled and uncontrolled clinical firals were fatigue (18%), headache (18%), abdominal pain (16%), asthema (16%), orthostatic hypotension (16%), vertigo (16%), anging pections (15%), asusea (13%), vomiting (13%), bronchiris (13%), dyspina (13%), urinary fract infection (13%), rash (13%), and myocardial infarction (12%) from the control of the serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring since the drug was marketed or adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each

Cardiovascular Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, Hypotension), cardiac arrest, pulmonary embolism and infarction, rhythm disturbances, atrial fibrillation, palpitation

Digestive lieus, pancreatitis, hepatitis or cholestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis Nervous/Psychiatric Oepression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia Urogenita/ Benat failure, oliguria renal dysfunction (see PRECAUTIONS and OOSAGE AND AOMINISTRATION) Respiratory Bronchospasm, rhinorthea, asthma, upper respiratory infection

nespiratory bioliciospashi, minime, astinia, upper respiratory mection.

Skin Herpes roster, pruritus, alopecia llushing, photosensitivity.

Other Vasculitis, muscle cramps, hyperhidrosis, impotence, blurred vision, laste alteration, tinnitus.

A symptom complex has been reported which may include fever, myalgia, and arthratigia, an elevated erythrocyte sedimentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disappeared after discontinuation of therapy.

peared after discontinuation of therapy. Angioedema Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be falat. If angioedema of the face, extremities, fips, tongue, glottis, and/or larynx occurs treat-ment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.) Hypotension in the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypotensions we patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

Clinical Laboratory Test Findings

Clinical Laboratory. Test Findings

Creatimine, Blood Urea Mitrogen. In controlled clinical trials, minor increases in blood urea nitrogen and serum creatimine, eversible upon discontinuation of therapy, were observed in about 0.2% of patients with resential hypertension liceated with VASOTEC alone Increases are more likely to occur in patients receiving concomitant diurerities or in patients with renal artery stenoiss. (See PRECAUTIONS.) In patients with fenal ratifiers who were also receiving diurerics with or without digitalisis, increases in blood urea introgen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or other concomitant diureric therapy were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients. Increases of approximately 0.3 g % and 1.0 vol.%, respectively) occur frequently in either hypertension or heart failure patients freated with VASOTEC but areally of clinical importance unless another cause of anemia coexists. In clinical trials, isses than 0.1% of patients discontinued therapy due to anemia.

Differ (Causal Relationship Unknown) In marketing experience, rare cases of neutropenia, thromboxyloopenia, and bone.

Timed inegacy due to alternal public of alternal public of the Council of a second control of the Council of th

Dosage and Administration: Hyperfension. In patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, it possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC alone, diuretic therapy may be resumed. If the diuretic cannot be discontinued, an initial dose of $2.5\,\mathrm{mg}$ should be used under medical supervision for at least two holds and until blood pressure has stabilized for at least an additional hour (See WARNINGS and PRECAUTIONS, Drag Interactions).

hours and until blood pressure has slabilized for at least an additional hour (See WARNINGS and PRECAUTIONS, Drug Interactions).

The recommended initial dose in patients not on diuretics is 5 mg once a day Dosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg pet day administered in a single dose or in two divided oses. In some patients treated once daily, the antitypertensive effect may diminish lovard fine height of dosing interval in such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diuretic may be added. Concomitant administration of VASOTEC with potassium supplements, potassium salt substitutes, or potassium-sparing diuretics may lead to increases of serum potassium (see PRECAUTIONS).

Dosage Adjustment in Hypertensive Patients with Penal Impariment. The usual dose of enalight is recommended to patients with a creatinine clearance. 30 ml/min (serum creatinine erreatinine of up to approximately 3 mg/dL). For patients with creatinine clearance. 30 ml/min (serum creatinine erreatinine of up to approximately 3 mg/dL). For patients with extractioned clearance. 30 ml/min (serum creatinine erreatinine) to approximately 3 mg/dL). For patients with creatinine clearance. 30 ml/min (serum creatinine erreatinine) to approximately 3 mg/dL) for patients with creatinine clearance. 30 ml/min (serum creatinine erreatinine) to approximately 3 mg/dL) for patients with creatinine clearance. 30 ml/min (serum creatinine) as assimilated to a service of the dose of VASOTEC. The mg daily. Heart Failure VASOTEC is indicated as adjunctive therapy with diuretics and digitals. The recommended starting dose is 25 mg once or twice daily daily for a service of the dose of the diuretic should be reduced, which may diminish the fishelihood of hypotension in the appearance of hypotension after the initial dose of VASOTEC do

namic response. (See WAHNINGS.)

Dosage Adjustment in Heart Failure Patients with Renal Impairment or Hyponatremia. In heart failure patients with hyponatremia (serum sodium < 130 mEq.(1) or with serum creatinine >1.6 mg/dL, therapy should be initiated at 2.5 mg daily under close medical supervision. (See OCSAGE AND AOMINISTRATION, Heart Failure, WARNINGS, and PRE-CAUTIONS, Drug Interactions.) The dose may be increased to 2.5 mg bit of the line of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

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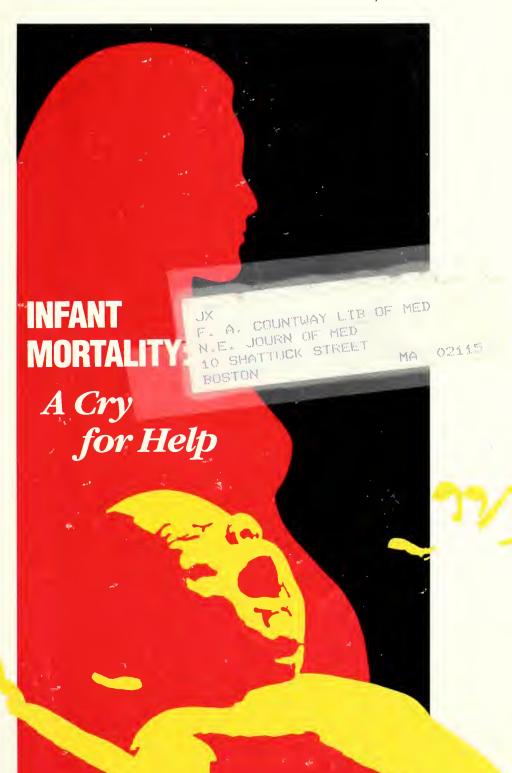
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The Journal of the Indiana State Medical Association

November 1989

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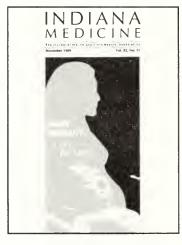
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CME

Neurological complications of infective endocarditis
Post inferior myocardial infarction ventricular septal rupture
Aortic valve decalcification revisited
Dietary fluoride supplements for Indiana's children: The role of the physician
Traumatic knee injuries: The accuracy of MR imaging compared with arthroscopy

features___

Infant mortality: A cry for help892
The first step in improving the health of mothers and infants is to
provide universal access to health care.



Cover story on page 892. Cover design by Diane Alfonso, a graphic designer with the Publications and Information Services at Indiana University - Purdue University at Indianapolis.

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■ stethoscope

Provisions of Indiana's abortion law outlined

Abortion remains a controversial topic in the United States, particularly since the *Webster v. Reproductive Health Services* Supreme Court decision earlier this year. The decision essentially allows states more flexibility to regulate abortions.

Ron Dyer, ISMA general counsel, has outlined the basic elements of the Indiana abortion law that may be of interest to physicians:

- **➡** Consent of one of the patient's parents is required if the patient is under age 18, unless the minor petitions the juvenile court for a waiver.
- → During the first trimester, there are no special requirements except that the abortion must be performed by a physician, with the patient's written consent on file.
- → During the second trimester and before viability, the abortion must be performed in a hospital or ambulatory outpatient surgical center.
- During the third trimester (and during the second trimester, if after viability), the abortion can only be done in a hospital having premature birth intensive care units and must be done in the presence of a second physician who shall take control of and provide immediate care for a child born alive as a result of the abortion. Also, the attending physician must certify in writing to the hospital that there is substantial impairment to the life or physical health of the mother.
- → It is the responsibility of the attending physician to determine which trimester the pregnant women is in and whether the fetus is viable and to certify that determination as part of the written reports required by the Indiana State Board of Health.
- Any fetus born alive shall be treated as a person under the law, and a birth certificate shall be issued, certifying the child's birth, even though the child may subsequently die, in which event a death certificate shall be issued. Failure to take all reasonable steps, in keeping with good medical practice, to preserve the life and health of the live-born person shall subject the responsible persons to Indiana laws governing homicide, manslaughter and civil liability for wrongful death and medical malpractice. Performing an abortion in violation of the above requirements is a Class C felony, punishable by imprisonment of two to eight years and a \$10,000 fine.
- → Performing an abortion on a minor without obtaining parental consent is a Class A misdemeanor, punishable by imprisonment of one year and a \$5,000 fine.
- → No private or denominational hospital shall be required to perform abortions.
- No physician, employee or staff member of a hospital or other facility where abortions are performed shall be required to perform any abortion or assist or participate in medical procedures resulting in an abortion, if the person objects to such procedures on ethical, moral or religious grounds. Discrimination against persons for their beliefs about abortion also is prohibited.
- → The state and its political subdivisions may not pay for an abortion unless the abortion is necessary to save the life of the pregnant woman.
- Childbirth is preferred, encouraged and supported over abortion.

what's new

Siemens Medical Systems Inc. has announced a new software option for magnetic resonance angiography, which received 510k clearance from the U.S. Food and Drug Administration. It provides non-invasive, high-resolution 3-D studies of blood vessels without the use of contrast agents. Diagnostic use for intracranial aneurysn:s and atherosclerosis of the carotid arteries is expected. Siemens also has been granted permission from the FDA to market its newest mammography system in the United States. A free-standing, self-contained imaging system, the MAMMOMAT C, is designed to perform mammography screening and complete radiological diagnosis of the breast.

Wampole Laboratories has announced VIROGEN® ROTA-TEST™, a rapid latex agglutination slide test for the qualitative detection of rotavirus in fecal samples. This test requires less than four minutes, and results are available in 17 minutes. It has a sensitivity of 97% and a specificity of 100% relative to electron microscopy and enzyme immunoassay (EIA).

Abbott Laboratories has announced that its renin inhibitors, a new class of drugs currently under study to treat hypertension, may have therapeutic applications for glaucoma, according to new research. The study shows that topical corneal applications of solutions containing renin inhibitors significantly reduced the intraocular pressure in animals, ranging from 20% to 36%. In humans, the elevation of intraocular pressure is a primary factor in glaucoma.

Allergy Control Products Inc. has introduced a new spray solution to control dust mites, one of the major causes of indoor allergy symptoms. Allergy Control™ Solution inactivates dust mite allergen in carpets and upholstery by altering the protein in the mite waste products and changing it into a form that no longer causes allergies.

V.I.E.W. Video has released a new videocassette titled "Childbirth: From Inside Out," a complete guide to pregnancy, delivery and postnatal care. The two-part series contains comprehensive medical information and answers many sensitive questions. Some topics include amniocentesis, ultrasound and morning sickness. The two-part video, which may be shown by a physician or viewed at home, is available in VHS and BETA formats.

The American College of Physician Executives (formerly the American Academy of Medical Directors) has published a book on management titled *Physician Managers and the Law: Legal Aspects of Medical Management.* This book, written by physicians, provides essential guidelines on meeting quality needs within legal constraints.

News of what is new in the medical supply industry is composed of abstracts from news releases. Each item published does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Heath/Zenith Educational Systems has introduced a new voice-controlled computer system and robotic workstation that allows people with severe physical upper body limitations to operate a personal computer. The new system can recognize commands from any number of individual users, regardless of slang, dialect, language or speech impediment. A robotic arm, which can retrieve documents from the printer and perform other manipulative tasks, accompanies the workstation.

The Association for the Advancement of Medical Instrumentation has published a new technical information report, Apnea Monitoring by Means of Thoracic Impedance Pneumography. The report provides a comprehensive overview of the apnea detection method most commonly used in hospitals and home markets – thoracic impedance pneumography. Developed for equipment users and producers, the report contains both clinical and technical considerations, and other methods of apnea monitoring are reviewed.

Vivix Corp. has begun distribution of its newest cardiac evaluation system, Plurimus. This instrument performs electrocardiograms and Holter and stress monitoring all through one computer-integrated system. The improvements include a more compact console and a larger monitor. Plurimus was designed for primary care physicians, smaller clinics and hospitals with fewer than 100 beds. The system includes a Holter recorder, treadmill, monitor, computer and all necessary accessories.

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PRECAUTIONS Head injury and increased intracranial pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries

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dependence in the neonate.

dependence in the neonate.

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Because many drugs are excreted in human milk, caution should be exercised when PERCOCET® is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

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Special risk patients: PERCOCET® should be given with caution to certain patients such as the elderly or debilitated and those with severe impairment of hepatic or renal function, hypothyrioidism, Addison's disease, and prostatic hypertrophy or urethral stricture. ADVERSE REACTIONS The most frequently observed adverse reactions include lightheadedness, dizziness, sedation, nausea, and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients, and some of these adverse reactions may be alleviated if the patient lies down

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DDSAGE AND ADMINISTRATION Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. PERCOCET® is given

orally. The usual adult dose is one tablet every 6 hours as needed for pain.

DRUG INTERACTIONS Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics or other CNS depressants (including alcohol) concomitantly with PERCOCET® may exhibit an additive CNS depression. When such combined therapy is contemplated the dose of one or both agents should be reduced.

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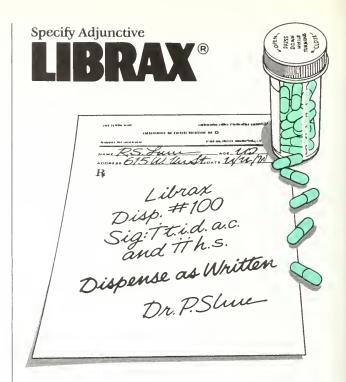
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classified the indications as follows:

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Final classification of the less-than-effective indications requires further

Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Br. Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy. Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.

As with all anticholinergics, inhibition of lactation may occur. Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Vaniable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants, causal relationship not established. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug. Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libindo—all infrequent, generally controlled with dosage reduction, changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlor-diazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. After extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

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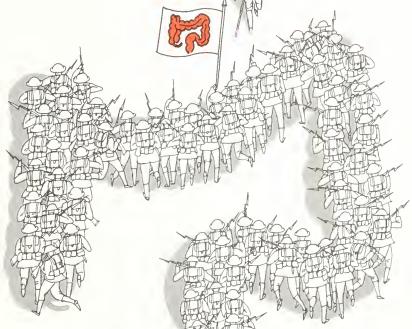
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cme calendar

Indiana University

The Indiana University School of Medicine will sponsor the following courses:

Nov. 17-18 Fall Meeting, Indiana Chapter, American College of Surgeons,

College of Surgeons, site to be announced.

Nov. 18 - Current Treatment of NIDDM and its Complications, University Place Executive Conference Center and Hotel, Indianapolis.

Dec. 1-2 – Facial Plastic Surgery Seminar, Big Four Classic '89, University Place Executive Conference Center and Hotel, Indianapolis.

Jan. 26-27 – Cochlear Implants in Children, University Place Executive Conference Center and Hotel, Indianapolis.

Feb. 1-3 – Surgical Laser Use:
Basics & Specifics,
Indiana University
Medical Center, Indianapolis.

Feb. 2-3 – Phacoemulsification and IOL Update, University Place Executive Conference Center and Hotel, Indianapolis.

For information, call Melody Dian, assistant director, CME, (317) 274-8353.

Ohio State University

The Ohio State University Center for Continuing Medical Education will present "Nutrition for Clinical Practice and Everyday Living" Dec. 8 and 9 at the Hyatt in Columbus, Ohio.

Internationally known experts will address the role of nutrition

in patient care and health professionals' own lives. Physicians, nurses, dietitians and other allied medical professionals are encouraged to attend.

For information, call the Ohio State University Center of Continuing Medical Education at (614) 292-4985 or 1-800-492-4445.

St. Vincent Hospital

St. Vincent Hospital will sponsor the following courses:

Nov. 17 – Eighth Annual Conference on Ethical and Moral Issues in Health Care, cosponsored by Methodist Hospital, Radisson Hotel, Indianapolis.

Dec. 1 - Seventh Annual Update in Cardiology,
Westin Hotel, Indianapolis.

Dec. 1 - Dual Diagnosis:
Working With
Chemically Dependent and Psychiatrically Disordered
Clients, Radisson
Hotel, Indianapolis.

Dec. 6 - Medical Aspects of Geriatric Nutrition, Radisson Hotel, Indianapolis.

For further information, call Marilyn Soltermann, CME coordinator, (317) 871-3460.

University of Michigan

A conference on "Emergency Medicine: Orthopedics" will be presented by the University of Michigan Medical School at the Towsley Center in Ann Arbor Dec. 4 through 6.

This course will prepare participants to manage orthopedic problems in the emergency department or office setting. The course

is specifically designed for physicians who provide care to patients with acute orthopedic problems.

For details, contact Gayle Fox, Office of CME, Towsley Center, Box 0201, University of Michigan Medical School, Ann Arbor, Ml 48109-0201, 1-800-962-3555.

Methodist Hospital

Methodist Hospital in Indianapolis will sponsor these events:

Nov. 17 – Eighth Annual Conference on Ethical and Moral Issues in Health Care, cosponsored by St. Vincent Hospital, Radisson Hotel, Indianapolis.

Dec. 1-2 – Fitness and the Primary Care Physician,
National Institute for
Fitness and Sport,
Indianapolis.

Dec. 5-6 - Eighth Annual Toxicology Seminar:
Hazardous Materials, Marriott Hotel,
Indianapolis.

Dec. 9 – Management of Gallstone Diseases in the '90s, Radisson Hotel, Indianapolis.

For information, call Dixie Estridge, CME, Methodist Hospital of Indiana, (317) 929-3733.

Rush University

The Rush-Presbyterian – St. Luke's Medical Center will sponsor "Neurology for the Non-neurologist" Dec. 6 through 8 at The Ambassador West Hotel in Chi-

For additional information, contact the Office of Continuing Medical Education, Rush-Presbyterian – St. Luke's Medical Center, 600 S. Paulina, Chicago, IL 60612, (312) 942-7095.

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Neurological complications of infective endocarditis



Karen L. Roos, M.D. Indianapolis

eurological complications develop during the course of infective endocarditis in approximately 30% of patients and are part of the initial presentation of this disease in about 15% of patients.1-5 As long ago as 1885, the triad of fever, petechial rash and mental symptoms was recognized as a characteristic presentation of infective endocarditis, even in the absence of a cardiac murmur.6 Isolated symptoms and signs of neurological disease constitute the initial presentation without a prodrome of malaise, fever, rash or a new cardiac murmur in approximately 2% of patients with infective endocarditis.⁵

Non-neurological signs and symptoms

The classic clinical manifestations of infective endocarditis are fever, cardiac murmur, petechiae, splenomegaly, splinter hemorrhages, Roth's spots, Osler nodes and Janeway lesions. Petechiae are most frequently found in the conjunctiva, on the extremities or buccal mucosa. Splinter hemorrhages are linear red streaks beneath the nails. Roth's spots are oval-shaped retinal hemorrhages with a clear, pale center. Osler nodes are small, tender nodules that develop on the finger or toe pads. Janeway lesions are nontender, macular hemorrhagic areas on the palms and soles.⁷ The cardiac murmur in this disease is classically described as a new regurgitant or changing murmur, although murmurs frequently are absent in patients with tricuspid valve endocarditis. The triad of fever, pleuritic chest pain and blood-streaked sputum in an intravenous drug user suggests tricuspid valve endocarditis.⁸

Neurological presentation

The central nervous system (CNS) complications of bacterial endocarditis are the result of cerebral embolization of infected clot from vegetations on cardiac valves. An embolic event precedes the development of every neurological complication. The clinical syndromes that result from septic emboli to cerebral vessels include stroke, a confusional state or encephalopathy, meningitis, signs and symptoms of a mass lesion from either a mycotic aneurysm or a brain abscess, or an intraparenchymal or subarachnoid hemorrhage.

Embolic occlusion of a single cerebral artery produces ischemia and/or infarction (stroke) in the territory of that vessel. Multiple emboli to the brain, producing either multiple microabscesses or multiple small infarctions, can present clinically as a confusional state. Meningitis develops when septic emboli lodge in meningeal vessels. Mycotic aneurysms arise

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To obtain Category I credit for this month's article, complete the quiz following this article.

from septic emboli that lodge in blood vessel walls or the vasa vasorum. Mycotic aneurysms become symptomatic as they enlarge or when they rupture. A brain abscess develops when infection spreads from infarcted brain. Intracranial hemorrhages are the result of rupture of a mycotic aneurysm, septic erosion of an arterial wall or transformation of an ischemic infarction to a hemorrhagic infarction by anticoagulant therapy.9 These clinical syndromes will be discussed separately.

Ischemia or infarction

Embolic occlusion of major cerebral arteries is a complication in approximately 20% of patients with native valve infective endocarditis.¹⁰ More than 90% of the large emboli lodge in the middle cerebral artery; therefore, the most common clinical presentation is a contralateral hemiparesis and hemisensory deficit.1 Emboli that occlude the inferior division of the left middle cerebral artery produce a disturbance of language, or aphasia. Embolic occlusion of the rostral basilar artery has a classic presentation consisting of disorders of ocular movements, including disorders of vertical gaze, hyperconvergence, "pseudosixth nerve palsy," pupillary abnormalities, somnolence and visual hallucinations. Embolic occlusion of a posterior cerebral artery results in a homonymous visual field defect with preservation of optokinetic nystagmus, visual perseverations and confusional states.11

An embolic event should be suspected in patients who have an abrupt onset of a neurological deficit. This is in contrast to patients in whom stroke results from atherosclerotic cerebrovascular disease and follows episodes of

ipsilateral transient ischemic attacks (TIAs). In a small percentage of patients with embolic infarction, the neurological deficit may have a progressive or stuttering course as embolic fragments migrate distally and occlude branching vessels. A hemorrhagic infarction on computed tomography (CT) scan also suggests embolization.¹⁰

Meningitis

Meningitis develops during the course of infective endocarditis as a result of one of the following:

1) by direct blood-borne implantation of septic emboli in meningeal vessels;

2) by spread of infection from infarcted brain;

12 or

3) as a sterile inflammatory reaction to infarction or hemorrhage within the brain.

13 The clinical signs and

An embolic event should be suspected in patients who have an abrupt onset of a neurological deficit.

In the Massachusetts General Hospital series of 218 patients with bacterial endocarditis, 60 (28%) had cerebral embolic events. S. aureus endocarditis accounted for 70% of the cerebral emboli occurring within two weeks of the onset of the endocarditis.4 In a series from Columbia-Presbyterian Medical Center of 154 cases of infective endocarditis, 60% of patients with native valve endocarditis caused by S. aureus developed cerebral emboli.8 Emboli usually occur early, within two weeks, from valves infected with virulent organisms. This is in contrast to the embolic events that occur later (i.e., three to 12 weeks) in "subacute" bacterial endocarditis due to streptococci of the viridans group.1

Seizures, fluctuating focal neurological signs and altered levels of consciousness are clinical syndromes seen with microemboli that occlude multiple small cerebral arteries. In one series of 23 patients with autopsy evidence of multiple microscopic infarctions, 19 had one or more of these

signs.4

symptoms of meningitis are fever, headache, nuchal rigidity and vomiting. The findings on cerebrospinal fluid (CSF) examination when meningitis develops in this condition are unusual when compared to those expected for a bacterial meningitis. The CSF glucose is usually normal even in smear or culture-positive fluids. The CSF protein is often elevated, but extremely high values (i.e., 1,000) mg/dL) have not been found. The white blood cell count is usually less than 1,000/mm³ with a predominance of polymorphonuclear leukocytes. Although the CSF may be purulent, Gram stains and cultures are usually negative. 12,14,15

Mycotic aneurysms

Cerebral mycotic aneurysms occur in 2% to 20% of cases of bacterial endocarditis. They tend to occur early in the course of endocarditis that is due to virulent organisms (i.e., *S. aureus*) but are reported more often as a complication in endocarditis caused by low-virulence organisms.^{4,16} Experimental work suggests that a

mycotic aneurysm usually forms within 48 hours of embolization.¹⁷

There are two theories of pathogenesis of cerebral mycotic aneurysms: 1) a septic embolus occludes the vessel wall and then destroys the arterial wall beginning within the lumen; or 2) infected embolic material lodges in the adventitial layer of the artery, through its vasa vasorum, destroying this layer first. The destruction of the adventitial layer is followed by destruction of the muscularis media, resulting in aneurysmal dilatation.¹

The most common location for a mycotic aneurysm is a peripheral branch of the middle cerebral artery. The middle cerebral artery is involved four times more often than either the anterior or posterior cerebral artery. Bacterial aneurysms occur at the bifurcation of small, secondary branch arteries in the distal circulation. This is in contrast to congenital cerebral aneurysms that are located at major cerebral artery bifurcations at the base of the brain in the circle of Willis. 18,19

The first sign of the aneurysm may be a sudden, massive subarachnoid or intracerebral hemorrhage, but some patients will have warning signs and symptoms. 14,19,21 The most common warning symptom of a mycotic aneurysm is a severe, unremitting localized headache.21 Severe headache, focal neurological deficits or seizures that develop during the course of infective endocarditis should be investigated with four-vessel angiography. If the initial angiogram is negative, a second angiogram should be done on completion of antibiotic ther-

An intracerebral hemorrhage that develops during the course of infective endocarditis usually is due to rupture of a mycotic aneurysm but may result from erosion

Table

Most common micro-organisms infecting heart valves

Native-valve endocarditis

- ◆ Staphylococcus aureus
- ◆ Streptococci

Prosthetic valves

- ◆ Coagulase-negative staphylococci (S. epidermidis)
- ♦ S. viridans

Drug addicts

◆ Staphylococcus aureus

of a necrotic, infected segment of the arterial wall without prior aneurysmal dilatation. It also may result from transformation of a bland infarction to a hemorrhagic infarction by anticoagulant therapy.⁹

Brain abscess

Miliary abscess formation occurs in brain tissue adjacent to cerebral vessels that are occluded by septic emboli. These lesions are usually microabscess in size (i.e., less than 1 cm³) and are widely distributed throughout the brain. Cerebral abscesses that are large enough to be surgically drainable or to create a mass effect are distinctly uncommon. The only clinical evidence of these microscopic lesions may be the development of a toxic encephalopathy.

Diagnosis

When involvement of the CNS is suspected in a patient with infective endocarditis, CT or magnetic resonance scan, CSF examination and, if indicated, cerebral angiography should be undertaken. In about 75% of patients

with bacterial endocarditis, the valvular vegetation will be imaged by two-dimensional echocardiography.²³

Therapy

The most common microorganisms infecting the heart valves are listed in the *Table*. When patients develop neurological complications, antibiotic therapy should be extended for eight weeks from the standard four- to six-week course for bacterial endocarditis. Anticoagulation is not recommended early in the course of native valve endocarditis because of the high rate of CNS hemorrhagic complications.²³ Valve replacement or debridement is recommended for patients who have recurrent CNS embolic events, but its indication in those patients with large vegetations by echocardiography is less clear.²³ Congestive heart failure and CNS embolic events are the leading causes of mortality in infectious endocarditis.3 🗖

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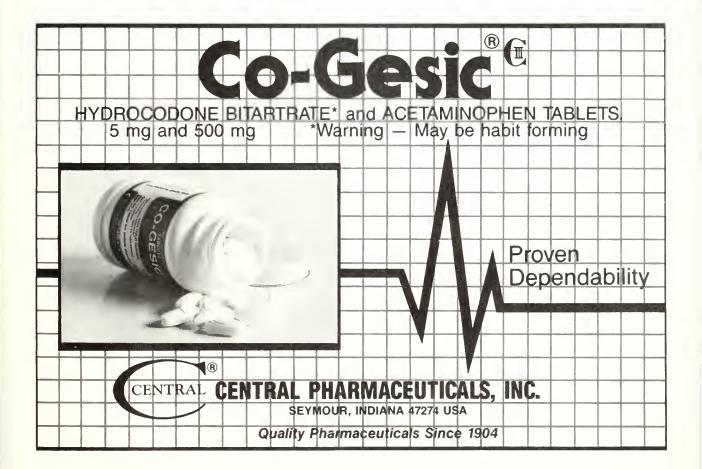
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cme quiz

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Neurological complications of infective endocarditis

- 1. All of the following are true about the systemic manifestations of infective endocarditis except:
 - a. Roth's spots are retinal hemorrhages
 - b. Osler nodes are tender nodules on the finger or toe pads
 - the presence of a new murmur is characteristic of tricuspid valve endocarditis
 - d. most patients have fever
- The central nervous system complications of bacterial endocarditis are the
 - a. disseminated intravascular coagulation
 - b. cerebral embolization of infected clot from valve vegetations
 - disruption of the blood-brain barrier from bacteremia
 - d. hemodynamic instability with decreased cardiac output
- The majority of cardiac emboli occlude
 - a. central retinal artery
 - b. basilar artery
 - c. posterior communicating artery
 - d. middle cerebral artery
- All of the following suggest the patient has suffered an embolic event except:
 - a. the abrupt onset of a neurological deficit
 - b. hemorrhagic infarction on CT scan
 - the abrupt onset of a hemiparesis

- and hemisensory deficit in a young individual
- d. a prior history of transient ischemic attacks in the same vascular terri-
- 5. The most common organism causing infective endocarditis in a drug addict
 - a. Staphylococcus aureus
 - b. Streptococcus viridans
 - Staphylococcus epidermidis
 - d. Malessezia furfur
- 6. In patients in whom neurological complications develop during the course of infective endocarditis, all of the following are true about management except:
 - a. antibiotic therapy should be extended for eight weeks from the standard four- to six-week course
 - b. anticoagulation therapy should be started as soon as a hemorrhagic event has been ruled out
 - valve replacement or debridement is recommended for patients who have recurrent CNS events
- 7. All of the following are true about mycotic aneurysms except:
 - a. the most common location for a mycotic aneurysm is a peripheral branch of the middle cerebral artery
 - b. an intracerebral hemorrhage that develops during the course of infective endocarditis is usually due to

- rupture of a mycotic aneurysm
- c. most small mycotic aneurysms resolve with antibiotic therapy alone
- d. the most common warning symptom of a mycotic aneurysm is a focal neurological deficit
- 8. All of the following are characteristic findings on CSF examination when meningitis develops in the course of infective endocarditis except:
 - a. CSF glucose is usually normal
 - b. CSF protein is often elevated
 - c. CSF white blood cell count is usually less than 1000/mm3
 - d. CSF cultures are usually positive
- 9. All of the following are clinical syndromes suggesting infected microemboli occluding small cerebral arteries
 - a. altered level of consciousness
 - b. fixed, focal neurological deficit
 - c. seizures
 - d. fluctuating neurological deficits
- 10. An intracerebral hemorrhage that develops during the course of infective endocarditis may be due to:
 - a. rupture of a mycotic aneurysm
 - b. erosion of a necrotic segment of arterial wall
 - c. anticoagulant therapy
 - d. all of the above

Answer sheet for CME quiz

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Answers (circle one)

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3. abcd

4. abcd

5. abcd

6. a b c 7. abcd

8. abcd

9. abcd

10. a b c d



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Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it, however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon * is indicated as a sympathicolytic and mydriatric. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug. ^{1,2} Also dizziness, headache, skin flushing reported when used orally. ^{1,3}

Dosage and Administration: Experimental dosage reported in treatment of erectile impotence. 1,3,4 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to $\frac{1}{2}$ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks. 3

How Supplied: Oral tablets of Yocon* 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

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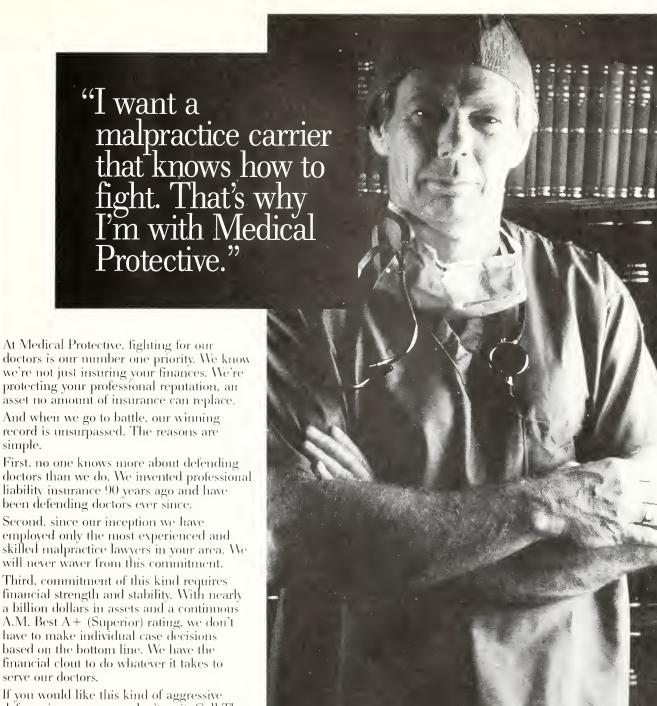


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Post inferior myocardial infarction ventricular septal rupture

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Ventricular septal rupture is one of the worst complications following myocardial infarction. Fortunately, ventricular septal rupture rarely complicates myocardial infarction and occurs in only about 1% of postmyocardial infarction states.

In today's aggressive programs of treating myocardial infarction and limiting myocardial infarction size, the frequency of ventricular septal ruptures may decrease even further. However, when ventricular septal rupture occurs, it is associated with extremely high mortality and morbidity.^{2,3} Without repair, a ventricular septal rupture is almost universally fatal, and with repair, mortality is still very high. Another frustration in the care of these patients is that ventricular septal rupture can be difficult to diagnose.

Ventricular septal ruptures can occur following an anterior or inferior myocardial infarction. They usually occur within the first

Abstract

Mortality from ventricular septal rupture after myocardial infarction (MI) is high. Ventricular septal rupture after inferior MI is particularly associated with a high risk because of difficulty in diagnosis and surgical approach. These three case reports show how diagnosis and correction can be expedited by emergency transportation and color-flow echo-Doppler cardiography. Prompt ventricular septal repair can provide excellent survival and rehabilitation potential.

two weeks following a myocardial infarction and can be sudden in onset or very gradual in their presentation; likewise, they can be associated with a gradual or sudden clinical deterioration. They are universally associated with a holosystolic murmur at the left sternal border that is often harsh in quality. However, with the larger ventricular septal ruptures, the murmur becomes less pronounced.

Following an anterior myocardial infarction, the ventricular septal rupture usually occurs in the muscular anterior ventricular septum. It can occur as a screenlike, multiple perforation rupture or as a large, ventricular septal rupture. The pulmonary artery pressure and wedge pressure increase gradually or suddenly, depending on the presentation. There is universally a "step-up" in

the degree of oxygen saturation when comparing the right atrial and the pulmonary artery oxygen saturations.

The inferior myocardial infarction also can be associated with a ventricular septal rupture. In this situation, the systolic murmur can be, and is often, confused with the murmur of mitral regurgitation and papillary muscle dysfunction found with inferior myocardial infarctions. As a result, many inferior ventricular septal ruptures are falsely categorized as mitral regurgitation, and definitive therapy can be delayed. Further complicating matters, inferior ventricular septal ruptures can be associated with mitral regurgitation of papillary muscle dysfunction, especially when the ventricular septal rupture involves the area of the anteromedial papillary muscle.4,5

The inferior septal ventricular rupture, therefore, involves a most difficult diagnostic challenge, and the most difficult surgical challenge. Because of the more difficult approach of the inferior (compared to the anterior) ventricular septal rupture, mortality has always been higher for inferior ventricular septal rupture repairs.

To underline the importance of a coordinated effort in the care of ventricular septal ruptures, this article will present case reports of the last three post inferior myocardial infarction ventricular septal ruptures at Methodist Hospital and will outline the patients' prehospital, hospital and surgical care. This article will emphasize that only a very organized, prompt approach to ventricular septal rupture will provide satisfactory results. Color-flow echocardiography as an important emergent diagnostic adjunct also will be discussed.

Case reports

The first patient was a 59-yearold man with a history of myocardial infarction in 1982. He was otherwise in good health and was working at his own lumber mill lifting heavy objects when he developed chest pain 10 days before admission.

On admission to an outlying hospital, the patient was noted to have a heart murmur. He was treated with numerous medications during his hospitalization but remained hypotensive and had persistent shortness of breath with minimal exertion. Under intense medical care with inotropes, vasodilators and diuretics, the patient was transferred by the Lifeline helicopter from about 90 miles away.

On arrival, the patient had a

blood pressure of 100/60, a heart rate of 94 and 28 respirations. Some basilar rales were noted. He had a V/VI harsh systolic murmur and a palpable thrill. No gallops were appreciated. Electrocardiogram showed an inferior myocardial infarction. Peak creatinine phosphokinase (CPK) was 400 in the outlying hospital. Chest x-ray showed mild interstitial edema.

Color-flow echocardiogram was performed emergently and showed mild to moderate left ventricular enlargement with the inferior wall being very thin and hypokinetic with overall poor systolic function. The inferior septum was loose and unattached and had an obvious inferior septal rupture with a moderate amount of left-to-right flow. There was no significant mitral regurgitation.

The inferior septal ventricular rupture, therefore, involves a most difficult diagnostic challenge, and the most difficult surgical challenge.

The patient was taken immediately to the cardiac catheterization laboratory, and an intra-aortic counter pulsation balloon was placed. At this time, cineangiography showed a completely occluded right coronary artery and a normal left circumflex and left anterior descending artery. The patient had an end diastolic pressure of 28, and the ventriculo-

gram showed no new findings. The patient improved almost immediately with intra-aortic counter pulsation balloon pumping assistance.

The patient was taken immediately to the operating room, where ventricular septal rupture repair was performed. The defect in the interventricular septum was about 4 cm long, or the size of a half dollar.

The patient did extremely well in the postoperative period. He had postoperative hypertension treated with calcium channel-blockers and bronchitis treated with antibiotics. The patient had a postoperative ejection fraction of 47% and was discharged nine days following surgery. He was taking bronchodilators, antacids and hypertensive medications. He was not given anti-coagulants.

The patient returned to work within a month and a half and had no resultant disability.

The second patient was a 50year-old man who had no chronic medical problems. When stricken with nausea and chest pain, he assumed it was a viral illness. He had very little chest pressure or heaviness but had pronounced weakness and fatigue for four days when the family found him cyanotic, extremely short of breath and unable to arise from the bed. Paramedics found him to be hypotensive with a blood pressure of 50. He was seen in an outlying hospital and was started on Dobutamine at 12 mcg per kg. A pulmonary artery catheter was placed; however, because of continued hypotension and congestive failure, he was referred to Methodist Hospital and was transported by the Lifeline helicopter.

On arrival, his blood pressure was between 70 and 90 systolic

with a heart rate of 110. His respirations were 30, and he was in marked distress. His carotid pulses were +1 without bruit or murmur. He had markedly elevated jugular venous pressure, a IV/VI systolic murmur at the left sternal border, but no diastolic murmur was noted. His electrocardiogram showed an acute inferior myocardial infarction with right ventricular enlargement and complete right bundle branch block.

A color-flow Doppler echocardiogram performed on arrival showed an acute ventricular septal rupture involving the inferior septum at the apex almost to the papillary muscle level. It was a large defect approximately the size of a silver dollar (Figures 1, 2, 3, 4). There was mild to moderate tricuspid regurgitation and only very mild mitral regurgitation. There was normal aortic out-flow.

The patient was taken emergently to the cardiac catheteriza-

tion laboratory, and initially, an intra-aortic counter pulsation device was placed. The patient responded promptly, and his distress was reduced markedly. At that time, the patient had angiography and ventriculography performed, showing critical left circumflex and anterior descending disease. The patient was managed with intra-aortic counter pulsation, inotropes and vasodilators; surgical repair started within six hours of catheterization.

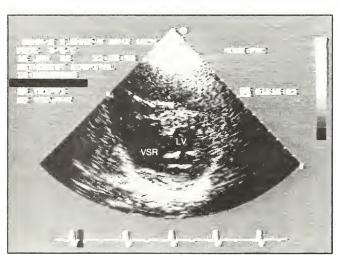


Figure 1



Figure 3

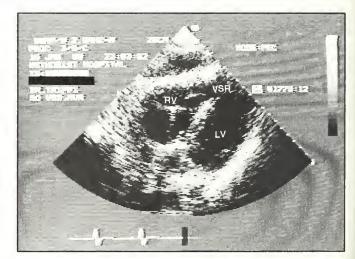


Figure 2

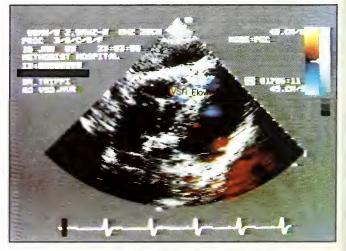


Figure 4

The patient had coronary bypass grafting with vein grafts to his left anterior descending and to the marginal circumflex and repair of ventricular septal rupture using a large Teflon patch from the mitral valve annulus to the reconstructed apex.

In the postoperative setting, the patient was seen in consultation for acute tubular necrosis and shock liver. He promptly responded to therapy, and both problems were resolved. He was discharged 15 days after admission. On a following visit, doctors noted a false aneurysm in the left groin at the site of the percutaneous aortic counter pulsation device. After aneursym repair, the patient had virtually no disabilities or complications.

The third patient was a 70-yearold woman who was in good health until the sudden onset of chest pressure and heaviness. She was seen in a community hospital and had a complete heart block and ventricular tachycardia associated with an inferior myocardial infarction. At that time, she received a temporary pacemaker but continued to have complications, including polymorphous ventricular tachycardia. She then was transported by the Lifeline helicopter to Methodist Hospital.

The patient did fairly well, but on the sixth hospital day, a new heart murmur was detected. Color-flow echocardiography noted the murmur as a small, inferior apical ventricular septal rupture. Catheterization substantiated this and showed right coronary artery occlusion of 100%, and a left ventricular ejection fraction of 46%. The intra-aortic counter pulsation balloon device was implanted. There was a stable clinical course, and surgical repair was

deferred for five days. Following repair, the patient had occasional episodes of atrial fibrillation that were treated with Digoxin and Quinidine. She remained on spironolactone and aspirin, and she did very well. She was discharged after a three-week hospitalization and did well for two weeks, but she was readmitted with congestive failure. After a two-week hospitalization, the patient was discharged. She has been in good health with little disability and no subsequent chest pain or congestive failure and has a normal and active lifestyle.

Discussion

These three patients have sustained an extremely morbid and high mortality complication of an inferior myocardial infarction. Each patient had an extremely complicated inferior myocardial infarction. The last patient was transferred before the onset of ventricular septal rupture and was stabilized for five days before surgery. The first two patients had extremely complicated courses and cardiogenic shock following their inferior myocardial infarctions, but neither were recognized to have ventricular septal ruptures. Both required emergency surgical repair.

After physician-accompanied helicopter transfer to a tertiary center, immediate diagnosis by color-flow echocardiography was available. In the latter two cases, these diagnoses were obtained in the late evening. As a result of a definitive diagnosis by color-flow echocardiography, cardiac catheterization is necessary only to perform coronary arteriography as a guide in coronary bypass grafting and to place the intra-aortic counter pulsation balloon

device. In all three cases, the aortic counter pulsation balloon device provided immediate and dramatic improvement.

Before surgery, with the help of the color-flow Doppler echocardiogram and catheterization, the surgeon is aware of the size and location of the ventricular septal rupture, degree of concomitant mitral regurgitation, the coronary artery anatomy and the extent of pulmonary artery edema. As a result, the surgeon and anesthesiologist are better prepared to handle the difficult repair procedure.

Conclusion

These three cases emphasize the collaborative effort necessary to provide a satisfactory outcome for inferior myocardial infarction ventricular septal rupture patients.

First, the primary care physician must recognize the complicated nature of the myocardial infarction. All of these patients had severe ventricular arrhythmias, congestive failure, heart block and a newly recognized and extremely harsh holosystolic murmur. However, this murmur is very difficult to differentiate from severe mitral regurgitation.

Second, in the extremely complicated myocardial infarction, emergency transportation to a tertiary center is required. Helicopter transportation with physician attendance is necessary in these deathly ill patients.

Third, the color-flow Doppler echocardiogram provides almost instant assessment about the degree and nature of the inferior septal rupture and the degree of mitral regurgitation present.

Fourth, intra-aortic counter pulsation balloon treatment provides

dramatic, yet temporary, improvement in order to stabilize the patient before surgical repair. Experienced and prompt surgical intervention is needed in these extremely arduous cases. This especially pertains to the inferior ventricular septal rupture repair.

The inferior myocardial infarction is not always a benign event compared to the anterior or lateral myocardial infarction. These three case reports illustrate that care for the inferior ventricular septal rupture patient through a collaborative effort can yield very gratifying results.

The authors are affiliated with Methodist Hospital of Indiana in Indianapolis. They wish to thank Lana Hodges, CMT, for the preparation of this manuscript.

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Aortic valve decalcification revisited

Alan T. Marty, M.D. Shahid Mufti, M.D. Imad Murabit, M.D. Evansville

Patients with calcified small aortic roots who have aortic stenosis and coronary artery disease present severe management problems. In the past, treatment methods have included apical to descending aorta conduits or other sophisticated repairs.

We report a case of a 75-yearold, diabetic white woman who had unstable angina. She had moderately severe aortic stenosis and a calcified, small aortic root. All of her coronary arteries were calcified and severely narrowed. She was treated successfully and relatively simply with aortic valve decalcification and a quadruple aorto-coronary bypass.

Case report

This 75-year-old woman was admitted with severe progressive angina pectoris unresponsive to medical therapy including calcium blockers, beta blockers and nitrates. She also had insulin-dependent diabetes, degenerative joint disease and moderately severe carotid artery disease. Physical examination disclosed a loud murmur of aortic stenosis. Significant coronary disease involving the proximal and distal right coronary artery, two circumflex

Abstract

A 75-year-old woman with a small calcified aortic root, severe aortic stenosis and triple vessel coronary artery disease developed angina at rest. Aortic valve decalcification and quadruple aorto-coronary bypass were done as her aortic root was too small and calcified to do anything else. Postoperative clinical and hemodynamic results have been excellent. Literature review supports application of this therapy in selected patients with trileaflet senescent aortic stenosis.

marginal vessels and the anterior descending were found at the time of cardiac catheterization. Good left ventricular function was preserved. She also had mitral annular calcification and a small aortic root. The mean aortic valvular gradient was 45 mm of mercury. The echocardiogram demonstrated a severe calcification of the aortic root and aortic valve. The aortic valve area was calculated at 0.7 cm².

A quadruple aortocoronary bypass was done using a sequential vein graft to the two circumflex marginal arteries and using separate vein grafts to the left anterior descending and posterior descending coronary arteries. Intermittent blood cardioplegia, instilled via separate cannulae down the vein grafts, provided excellent cardiac protection. The aorta was then opened. The very calcified proximal one inch of the aorta was left intact. In each sinus of valsalva, severe annular deposits of calcium, severely limiting the motion of the trileaflet valve, were found. The calcification was limited to the aortic side of each cusp. With careful debridement, it was possible to gently tease the calcium out of the coronary sinuses and out of the valve leaflets. After decalcification, good healthy valve cusps, still opaque, thin and now flexible, were seen. The aortotomy was closed after irrigating with saline to prove that no aortic regurgitation was present.

The vein grafts were sewn high in the ascending aorta, thus avoiding the calcified area. An aortic thrill, which had been noted preoperatively, was no longer palpable. A double lumen left atrial pressure line that also could be used to instill vasopressors proved helpful in weaning her from cardiopulmonary bypass.

She did well postoperatively. The aortic stenosis murmur disappeared. Echo Doppler showed a peak gradient of 15 and a mean pressure gradient of 7 mm of mer-

cury, a significant improvement over the preoperative status.

She had some secretional airway disease that required pulmonary physiotherapy. She left the intensive care unit after two days and was discharged eight days after surgery. At the time of discharge, she was taking Digoxin 0.25 mg daily, Tagamet 300 mg daily, one Dyazide daily, Vasotec 7.5 mg qAM, Naprosyn 250 mg t.i.d. with meals and 30 units of NPH insulin subcutaneously daily. She continues to do well at home one year after her surgery. She no longer has angina, and a repeat echocardiogram shows good function of her aortic valve.

Discussion

Mechanical decalcification of the aortic valve dates from the earliest days of open heart surgery. The Mayo Clinic recently reported a long-term follow-up on 92 patients who underwent the procedure between 1959 and 1984. The best results were obtained in a subgroup of patients with senescent aortic stenosis in which the trileaflet architecture was generally preserved. Of eight such patients, survival was 100% at one year and 50% at five years. The cause of late death in these patients was myocardial infarction in two, arrhythmia in one and malignancy in another. None of the four survivors required a reoperation.1

Weinstein et al² have outlined their indications for aortic valve decalcification: patients with senescent calcification, calcification of the aorta or annulus, a small aortic root, severe coronary artery disease or poor left ventricular function; patients who are older than 75; and patients in whom anticoagulant therapy is contraindicated. In the series of Weinstein et al, 40 patients underwent aortic decalcification. At a mean follow-up of two years (range was one to 91 months), 77% had relief of symptoms.

In 1988, 31 patients undergoing aortic valve decalcification using an ultrasound debridement device have been reported.^{3,4} This device, called a Cavitron Ultrasound Surgical Aspirator, which incorporates vibration, irrigation and suction, has been used in hopes of improving the aortic valve salvage rate by doing thorough decalcification and, simultaneously, avoiding leaflet injury. Transaortic valve gradients and aortic valve areas have normalized all patients in these series.

Aortic valve decalcification can achieve a significant reduction in aortic valve gradient and can salvage the native trileaflet aortic valve.

In 1989, Mindich et al⁵ compared the six-month follow-up in three patient groups: 17 patients with aortic valve decalcification, 15 patients with aortic valve replacement and 18 patients who had balloon aortic valvuloplasty.

Eleven of the 18 balloon angioplasty patients restenosed their aortic valves in 7.7 months. In contrast, all aortic decalcification patients were well without increasing stenosis or regurgitation, quite similar to the 15 patients who had aortic valve replacements.

Aortic valve decalcification can achieve a significant reduction in aortic valve gradient and can salvage the native trileaflet aortic valve. It may become an important alternative therapeutic procedure in elderly patients with trileaflet senescent aortic stenosis and narrow calcified aortic roots.

This article is from the Tri-State Regional Heart Institute at St. Mary's Medical Center in Evansville.

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Dietary fluoride supplements for Indiana's children:

The role of the physician

Charles O. Hazelrigg, D.D.S. Steven M. Levy, D.D.S., M.P.H. Raymond A. Kuthy, D.D.S., M.P.H.

The appropriate use of fluoride remains the best defense against dental caries. This is true despite extensive efforts to develop improved methods of mechanical plaque removal, to develop chemical agents that safely and effectively reduce the cariogenic activity of bacteria and to reduce the frequency of intake of cariogenic foods by modification

of dietary practices.1

Pit-and-fissure sealants are an important weapon in caries control,² but their full impact depends heavily on the ability of fluorides to control smooth surface caries. Although the mechanisms by which fluorides exert their cariesinhibiting effects are not fully understood, they are thought to include: 1) reduction of enamel solubility; 2) remineralization of early carious lesions; and 3) action on plaque bacteria. A greater interest in and understanding of the remineralization process has evolved in recent years, showing that many early carious lesions may be reversible if treated promptly and properly with fluoride.

Abstract

Fluoride supplements for Indiana children are necessary for caries reduction where communal and well water tests show deficient levels of fluoride. The role of the physician in providing optimum preventive dental care to young patients is discussed. Also, the proper dental protocol for fluoride supplements is provided.

Fluoride products are intended for use either systemically or topically. Systemic fluoride is ingested, absorbed and incorporated into developing bone and tooth structure. In contrast, topical fluorides work only locally on superficial layers of enamel and

plaque.

Methods of delivering systemic fluorides in the United States include community and school water fluoridation and dietary fluoride supplements. Topical fluorides may be applied professionally or self-applied. They include fluoride solutions and gels (applied in trays or with a toothbrush or applicator), fluoride dentifrices and fluoride mouth rinses. Topical benefits also result from drinking fluoridated water or chewing fluoride tablets.

These methods of delivering fluorides are discussed in the September 1986 issue of *JADA*, titled "A Guide to the Use of Fluorides

for the Prevention of Dental Caries,"³ and in the American Dental Association's *Accepted Dental Therapeutics*.⁴

A comprehensive fluoride program should include a systemic form and may include one or more topical forms. The systemic and topical modes should not be used in lieu of each other, but should complement each other.

Several studies have found that most physicians and dentists reported prescribing dietary fluoride supplements for some of their child patients.⁵⁻⁹ Studies also have shown, however, that some practitioners are unaware of the proper supplement protocol (including water fluoride testing, when necessary), dosage guidelines and the actual fluoride concentrations in the area's main water supplies.⁵⁻¹¹

This article explains the need for and the importance of dietary fluoride supplements in Indiana and reviews the proper protocol for their use. It should help the practitioner provide optimum preventive care to young patients.

Systemic supplements

Community water fluoridation is the most efficient and cost effective method of providing systemic fluoride for the prevention of dental caries. 12 Unfortunately, almost one-half of the U.S. population drinks water that is not optimally fluoridated.¹³ In Indiana, approximately 95% of the population served by community water systems is receiving fluoridated water. However, this figure represents only 67% of Indiana's total population. In fact, even if all community water systems were fluoridated, 29% of the state's population still would not have access to fluoridated water.

Alternative sources of systemic fluoride are necessary if more children are to receive the caries preventive benefits of systemic fluoride. School water fluoridation is one alternative and is being used in approximately 90 Indiana schools.

Generally, the water from school fluoridators contains 4.5 times the optimal level of fluoride for community water fluoridation in that particular geographic area to approximate the fluoride intake that would take place if the children were drinking water fluoridated at the average optimal 1.0 ppm all day, every day. The students drink school water for only a few hours on school days (approximately 180 days per year). Children who drink school water fluoridated at 4.5 times optimal will experience substantial caries reductions up to 40%. The benefits are particularly great in the late-forming teeth that receive

both systemic and topical exposure.¹⁴

Children who drink water from an optimally fluoridated community system or a school fluoridation system should not receive systemic fluoride supplements. Specific information about the concentration of fluoride in your community's water supply may be obtained from your local water company, health department or dental public health personnel. Dr. Hazelrigg, director of preventive dentistry of the Indiana State Board of Health, also can provide lists of communities and schools in Indiana that are optimally fluoridated.

Fluoride supplements

For children who do not receive fluoridated water, the use of dietary fluoride supplements, tablets or drops, is a safe and effective means of reducing the incidence of dental caries by up to 60% or more¹⁵⁻²² and has been recom-

mended for use in private practices.²³ In order to receive maximum preventive benefits, the supplements must be taken daily from birth until at least age 13.⁴

Supplement protocol

Children should receive the appropriate dose of systemic fluoride. This can be accomplished only if the practitioner knows the fluoride concentration of the patient's main source of drinking water. (Occasionally, more than one important patient water source must be considered and the average fluoride level determined). Fluoride levels exceeding the optimal are associated with an increased risk of dental fluorosis (mottling).²⁴ Although fluorosis is primarily a cosmetic problem, severe cases often involve pitting of the tooth surface. Therefore, to avoid exceeding the recommended dose, the practitioner should know which communities in the area are fluoridated and the

Table 1

Supplemental fluoride dosage schedule*

(in mg of fluoride per day)

Parts per million fluoride in water supply:			
< 0.3	0.3 to 0.7	> 0.7	
0.25	0	0	
0.50	0.25	0	
1.00	0.50	0	
	< 0.3 0.25 0.50	0.3 to 0.7 0.25 0 0.50 0.25	

^{*} Recommended by the Council on Dental Therapeutics of the American Dental Association, by the Committee on Nutrition of the American Academy of Pediatrics and by the American Academy of Pediatric Dentistry.

^{* =} The American Academy of Pediatrics recommends providing supplements from 2 weeks through at least age 16.

Table 2

Sample prescriptions

Rx – Sodium fluoride drops

0.25 mg F/drops Dispense: 24 ml

Sig: Place one drop daily inside mouth or add to water, formula or

foods

CAUTION: Keep out of reach of children.

Note: This is a generic prescription for fluoride drops to be used when 0.25 mg fluoride is needed, i.e., from birth to 2 years with drinking

water containing less than 0.3 ppm fluoride.

Rx – Sodium fluoride tablets

1.1 mg (0.5 mg F) **Dispense:** 120 tabs

Sig: Chew one tablet daily before bedtime, swish for 60 seconds

and swallow.

CAUTION: Keep out of reach of children.

Note: This is a generic prescription for fluoride tablets to be used when

0.5 mg fluoride is needed, i.e., for a 2-year-old with drinking water containing less than 0.3 ppm fluoride or a child aged 3 to 13 with

water fluoride content between 0.3 and 0.7 ppm.

concentration of fluoride.

A separate water sample should be submitted to determine the fluoride content of a patient's community, school or individual water supply if the practitioner does not have prior specific knowledge of the level. Because there can be significant variations in water fluoride content from nearby wells, even in a small geographic area, one should not rely on the results of a sample from a different source, no matter how near.

Water sampling procedures

The Indiana State Board of Health Water Laboratory will analyze a patient's water sample for health professionals. Water sample bottles and further details about the program can be obtained by contacting the State Laboratory, Indiana State Board of Health, Water Laboratory, 1330 W. Michigan St., Indianapolis, IN 46206, (317) 633-0236. There is a \$5 charge to analyze a sample.

Dosage schedule

The present guidelines for systemic fluoride supplements recommended by the American Dental Association, the American Academy of Pediatric Dentistry and the American Academy of Pediatrics are shown in *Table 1*.4.25-27 Any water fluoride level greater than 0.3 ppm requires adjustment from the full dosage supplement.

Determining appropriate dosage

After determining the fluoride level of a patient's main source of drinking water (either by submitting samples or obtaining information from water companies, schools, Indiana State Board of Health, etc.), the practitioner must determine the appropriate supplement dosage, if any, to prescribe. For example, a 4-year-old with a water fluoride level of 0.5 ppm would receive a 0.50 mg supplement instead of the full supplement dosage of 1 mg that would be appropriate if the water fluoride level were 0.2 ppm.

The practitioner must determine whether an infant is being exclusively breast-fed or bottle-fed or obtaining nutrition from both sources. Totally breast-fed babies should be supplemented fully, since very low amounts of fluoride are found in human milk, even when the mother lives in a fluoridated area.²⁸ The major manufacturers of milk-based infant formulas have removed fluoride from their products that previously contained variable levels.²⁹ An infant on milk-based formula now receives fluoride almost exclusively from the water that may be mixed with the formula.²⁹ The practitioner must determine the proportion of bottle-feeding and reduce the supplement accordingly for infants receiving nutrition from both sources.

Because excessive fluoride can cause fluorosis, parents should contact the provider of the supplement, either physician or dentist, when changes occur in the infant's consumption of liquids so the fluoride supplementation can be adjusted. Significant changes in feeding patterns, such as from breast-feeding to bottle-feeding or breast-feeding to solid foods, must

be reported to the provider so the dosage of fluoride supplements can be adjusted, if necessary.

Although children should see a dentist at a young age, most children do not see one before age 3. The complexities of controlling fluoride dosage for infants and younger children must, therefore, be the joint responsibility of physicians and dentists, who should provide guidance in regulating supplement dosage. The dosage typically must be adjusted at ages 2 and 3.

The determination of water fluoride levels and systemic fluoride needs may be best accomplished as routine parts of new and recall patient examination procedures for pregnant women and children under age 16. Consequently, it has been suggested that physicians and dentists delegate appropriate aspects of these responsibilities to nurses, dental hygienists and other personnel to facilitate the process.⁹

Fluoride tablets are now available in 0.25 mg, 0.5 mg and 1 mg fluoride formulations. Several commercial brands are available.³ (See also List of Accepted Products-Fluoride Supplements in the February 1988 issue of *JADA*). Additionally, many pharmacies can provide a generic product.

The tablet should be chewed before swallowing to provide topical benefit. Those who cannot chew a tablet should use fluoride drops, often providing 0.125 mg or 0.25 mg of fluoride per drop. No more than 264 mg sodium fluoride or 120 mg fluoride should be prescribed at one time for safety reasons.⁴ The product should be kept in a child-proof container in a secure place. Sample prescriptions are shown in *Table 2* for 0.5 mg fluoride dosage tablets and

0.25 mg fluoride dosage drops.

Patient compliance is the biggest difficulty with fluoride supplements.18-21,30 Numerous studies have documented the effectiveness of fluoride supplements in reducing dental caries. However, the supplementation schedule must be followed conscientiously. These studies have shown that the greatest caries reductions have occurred as a result of select populations seeking pediatric medical or dental care on a regular basis and also as a result of follow-up from physicians and dentists who motivate the patients to comply with the dosage regimens. Therefore, the physician must routinely encourage and attempt to monitor the child's supplement use.

We hope this article will encourage and assist Indiana physicians in providing appropriate doses of systemic fluoride supplements to children in need. The medical profession must work closely with dentists and other health professionals if systemic fluorides are to be used to the greatest benefit by our population.

Summary

1. All children should receive one form of systemic fluoride and appropriate forms of topical fluoride.

2. If a child is not receiving optimally fluoridated water, the physician or dentist should prescribe dietary fluoride supplements (tablets or drops).

3. The correct dosage must be determined based on patient age and fluoride content of the patient's main water source(s).

4. Special attention is necessary concerning fluoride intake for children breast-feeding or consuming infant formula.

5. To arrive at the correct fluo-

ride dose, follow these steps: a) always have a sample of the main drinking water source (usually home water) analyzed for fluoride content before prescribing a fluoride supplement, if you do not have other specific knowledge of water fluoride content. The Indiana State Board of Health Water Laboratory provides water fluoride assay services; b) when the fluoride content of the water has been determined, the fluoride level and the child's age should be matched on Table 1 to arrive at the correct supplement dose.

6. Dr. Hazelrigg, director of preventive dentistry of the Indiana State Board of Health, can provide lists of communities and schools in Indiana that are optimally fluoridated.

Dr. Hazelrigg is director of preventive dentistry at the Indiana State Board of Health in Indianapolis. Dr. Levy is an assistant professor at the University of Iowa College of Dentistry, Department of Preventive and Community Dentistry. Dr. Kuthy is an assistant professor at the Ohio State University College of Dentistry, Section of Community Dentistry.

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Similar articles are being published in many state medical and dental journals as part of a series approved by the Association of State and Territorial Dental Directors.

For a complete list of references, write Indiana medicine, 3935 N. Meridian St., Indianapolis, IN 46208.

Traumatic knee injuries:

The accuracy of MRI compared with arthroscopy

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Previous reports have demonstrated that magnetic resonance imaging (MRI) accurately depicts knee anatomy and is capable of demonstrating a wide variety of knee joint abnormalities.^{1,2}

MRI is unique in its ability to directly visualize tendons, articular cartilage and menisci. Unlike other imaging modalities, MRI uses no ionizing radiation and does not require intra-articular injection of contrast. MRI also is painless and does not require knee manipulation, so examination of an acutely injured or painful knee is possible. For all of these reasons, MRI is rapidly replacing arthroscopy as the procedure of choice in the prearthroscopic evaluation of the painful knee.

The purpose of this study is to examine the use and accuracy of MRI in the evaluation of the menisci and cruciate ligaments and to compare our results with those reported in other literature. This report summarizes the evaluation

Abstract

Forty-three knees in 43 patients were evaluated preoperatively with magnetic resonance imaging (MRI). Both menisci and cruciate ligaments subsequently were examined directly with arthroscopy. A grading scale was used to evaluate intrameniscal signal intensity and to predict the presence of meniscal tear using MR. Compared with arthroscopy, the sensitivity, specificity and accuracy of MRI were, respectively, 100%, 88% and 93% for tears of the medial meniscus; 72.7%, 93.7% and 88.4% for tears of the lateral meniscus; 100%, 96.7% and 97.7% for tears of the anterior cruciate ligament. There were no posterior cruciate ligament tears, and none were suggested from the images. Our results show that MRI is a valuable diagnostic aid in the management of traumatic knee injury.

of 43 consecutive patients with MRI of the knee and arthroscopy.

Materials and methods

Between August 1987 and June 1988, MRI was performed on 134 knees in 126 patients. Arthroscopy subsequently was performed on 43 knees in 43 patients. The age of the patients ranged from 8 to 55 years, with a median age of 24.5 years and a mean age of 27 years. Twenty-six of the 43 patients were men, and 17 were women.

MRI was performed with a General Electric (Milwaukee) 1.5 T Signa MR unit with a dedicated knee extremity coil. The knee was positioned in full extension with

15 degree to 20 degree external rotation to optimize visualization of the anterior cruciate ligament. The field of view (FOV) was 12 cm to 16 cm, depending on knee size, and the matrix size was usually 256 x 256 pixels. Coronal localization images were obtained using a repetition time (TR) of 600 msec and an echo time (TE) of 25 msec. Spin echo sequences using a TR of 1,500-2,000 msec and TEs of 20 and 60-80 msec were obtained in sagittal and coronal projections. Slice thickness was 5 mm in all sequences. Image reconstruction was performed using a 2D Fourier transform. In later studies, high contrast filming with a narrow window width was used

to optimally visualize menisci.

The images were interpreted prospectively by one radiologist experienced in MRI. Menisci were evaluated using a grading system as follows: Grade O – homogeneously black meniscus; Grade I – faint globular nonlinear region of meniscal signal that does not communicate with an articular surface; Grade II –



Figure 1: Medial meniscal tear.



Figure 2: Anterior cruciate ligament tear.

linear region of intrameniscal signal, not communicating with an articular surface; communication with an articular surface is suspected, but cannot be documented (tear doubtful); Grade III (strongly suspected for meniscal tear) – moderate to high signal intensity where communication with an articular surface is suspected, but cannot be documented (probable tear); and Grade III (*Figure 1*) – increased meniscal signal intensity (which may be linear, globular or complex), definitely communicating with an articular surface. Grades O, I and II were classified as negative for tear and Grade III as positive.

The cruciate ligaments were diagnosed as torn (Figure 2) if there was a focal region of high signal intensity within the substances of the ligament or a discontinuity of the ligament on consecutive sagittal or coronal images.

Arthroscopy was performed between one day to two months after MRI in all patients except one who underwent surgery four months after MRI. In no case was there a known significant injury in the time interval between MRI and surgery. The magnetic resonance (MR) interpretations were compared to and correlated with the arthroscopy reports, using arthro-

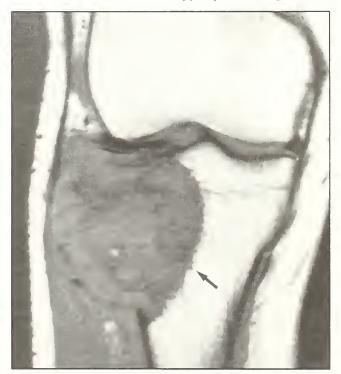


Figure 3: Giant cell tumor of tibia.

scopy as the standard for the diagnosis of pathology in the menisci and the cruciate ligaments.

Results

There were no false-negative medial meniscal tears. All 22 medial menisci that were classified as Grades O, I or II were confirmed as normal by arthroscopy (*Table 1*). Of the 21 medial menisci diagnosed as torn, 18 were confirmed by arthroscopy. The sensitivity and specificity for medical meniscal tears (*Table 2*) were 100% and 88% respectively.

In the lateral meniscus (*Table 1*), there were 30 true negatives and two false-positives for a specificity of 93.7%. There were three falsenegative lateral meniscal tears. Of the 10 lateral meniscal tears diagnosed as torn, eight were confirmed at arthroscopy (*Table 1*). The sensitivity and specificity for lateral meniscal tears was 72.7% and 93.7% respectively (*Table 2*).

Of the 43 knees examined, 13 had anterior cruciate ligament (ACL) tears (*Table 3*), and all were diagnosed preoperatively by MR. In only one case was ACL tear suggested that was normal on arthroscopy. There were no posterior cruciate ligament tears in this series, and none were considered normal by MR.

Bone tumors (*Figure 3*), cysts, effusions, osteonecrosis, osteochondritis dissecans and osteosarcoma were readily identified on MRI, although the accuracy of MRI with respect to these abnormalities was not investigated. Mild synovitis and pathological plicae, however, were not well demonstrated with MR.

Discussion

MRI accurately detects and demonstrates meniscal and cruci-

ate ligament tears. In this study, arthroscopy was taken as the standard of reference, although it is occasionally inaccurate.¹⁰ Arthroscopy has been found to be 69.8% to 92% accurate in identifying tears of the menisci.^{10,11,12} Falsenegatives with arthroscopy may be related to the difficulty in obtaining a direct view of the posterior horn of either menisci, which is often obstructed by the arc of the femoral condyle.¹¹ It is im-

portant to be aware of the possible inaccuracies of arthroscopy, although it is presently the most accepted standard by which to evaluate MRI.

Other series in the literature report a sensitivity, specificity and accuracy from 96% to 97%, 89% to 100%, 94% to 98% for the medial meniscus, 67% to 92%, 91% to 95%, 90% to 92% for the lateral meniscus and 92% to 100%, 95% to 97%, 95% to 97% for the ACL,

Table 1

Comparison of MR and arthroscopy for meniscal tears

MR signal	Medial		Lateral	
Grade	<u>Positive</u>	<u>Negative</u>	<u>Positive</u>	<u>Negative</u>
O or I	0	12	3	24
H	0	8	0	5
HH	18	3	8	2

Table 2

Sensitivity, specificity and accuracy of MR for meniscal and cruciate ligament tears

	Medial	Lateral	<u>ACL</u>	<u>PCL</u>
Sensitivity (%)	100	72.7	100	_
Specificity (%)	88	93.7	96.7	100
Accuracy (%)	93	88.4	97.7	100

Table 3

Comparison of MR and arthroscopy for anterior cruciate ligament (ACL) and posterior cruciate ligament (PCL) tears

MR	ACL		PCL	
Findings	<u>Positive</u>	<u>Negative</u>	<u>Positive</u>	<u>Negative</u>
Positive	13	1	0	0
Negative	0	29	0	43

respectively. Evaluation of the menisci and cruciate ligaments in this study was similar to that reported in other series.^{3,8}

The two false-positive lateral meniscal tears showed sharp, linear, primarily vertical signals occurring in the peripheral third of the posterior horn. These were not secondary to the popliteus tendon sheath, which was identified separately from these signal intensities. These were likely due to the close apposition of the lateral meniscus and associated ligament (menisco-tibial, meniscocondylar and menisco-cruciate). All five of our false-positive meniscal tears results occurred in the posterior horns, where most falsenegative arthroscopies are likely to occur. This is a common finding in similar studies, and some of these cases may, in fact, represent false-negative arthroscopies rather than false-positive MRI examinations.

The ACL usually is best demonstrated with the knee in 15 degree to 20 degree external rotation. 3,4,5,6,8 Despite this positioning, the ACL was not always fully contained within one sagittal image. The ACL was often poorly visualized due to volume averaging, improper external rotation or a combination of both factors. Nonvisualization of the ACL also may occur if the ligament is volume averaged on more than one slide on sagittal images. It is important to correlate findings in the sagittal images with those in the coronal images since technical factors can be misleading. In this situation, demonstration of continuity of the ligament on coronal images is helpful in excluding an ACL tear. The one false-negative ACL tear was probably due to a technically poor image since the patient was

very young (8 years old), and the study was done with a relatively large FOV (16 cm) and slice thickness. All of the ACL tears seen in this study involved the midbody or femoral attachment of the ligament, where ACL tears are most common.⁷ Posterior buckling of the PCL has been seen as a secondary finding with ACL tear, which occurred in several of our cases.⁷

The ACL was the most difficult knee structure to visualize and diagnose. Our statistics, however, do not reflect this difficulty, probably because the ACL tears were usually clinically suspected before the scan was taken, and clinical history was always available to the reviewing radiologist. Because of its large size, the PCL was always easily identified, so that pathology should have been readily evident.

The multiplanar imaging capability of MR allows examination of the entire meniscus, not just its surface. Intrasubstance tears that do not extend to the articular surface cannot be seen on arthroscopy but can be detected with MRI. Such intrasubstance degeneration has, in some cases, developed into a true tear that communicates with an articular surface.6 While the clinical significance of these intrasubstance tears is debatable, particular attention should be paid to these areas during arthroscopy. In this way, MRI can alert the orthopedist to areas of possible future pathology. MRI accurately evaluates the posterior horns of both menisci, where most meniscal pathology occurs. This is important since, arthroscopically, the posterior horns are the most poorly visualized portions of the menisci.

MRI provides accurate visuali-

zation and evaluation of the menisci and cruciate ligaments; it uses no ionizing radiation and is noninvasive and painless. These factors make MRI a valuable clinical and diagnostic aid, as well as the optimal imaging method for the management of traumatic knee injuries. Significant knee pathology seen at arthroscopy but not detected by MR included chondromalacia, unless it was quite severe, synovial plica and defects of the articular cartilage. Current 2D Fourier transform techniques are not particularly sensitive to these abnormalities. Perhaps with the recent development of 3D Fourier transform techniques and more sensitive pulse sequences, evaluation of these abnormalities, as well as the menisci and cruciate ligaments, will improve. 🖵

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Infant mortality: _A cry for help_

Loren P. Petersen, M.D. Indianapolis

he United States ranks 19th in the industrialized world in infant mortality, reports 40,000 infant deaths annually and has 500,000 pregnant women who receive inadequate prenatal care.

The National Commission to Prevent Infant Mortality⁵ was convened by the U.S. Congress to begin to develop a national strategy for combating the "tragedy of infant mortality." The National Commission to Prevent Infant Mortality uncovered multiple and complex infant mortality problems. Perhaps, the greatest problem may be national attitude. In all other countries with lower mortality rates, pregnant women and children are considered national treasures, national resources who will determine the future of the nation. A pregnant woman in all other industrialized nations has immediate access to the health care system and a variety of services to assist her through pregnancy and to assure the birth of a healthy infant.

The Alan Guttmacher Institute, in its excellent studies of Blessed Events and The Bottom Line,7 described the U.S. maternal child health care system as patchwork. The United States does not have a national health policy for pregnant women and infants, nor does it have a health care system that can interact with health policies to provide the health care, education and services to pregnant women and children. Furthermore, the infant mortality issue is compounded because it reflects societal problems in general. Infant

mortality has been called a social problem with medical consequences.

Socioeconomic disease indicators such as anemia, infection and hospitalizations are seen much more frequently in impoverished populations. Therefore, it is no great surprise that the highest infant mortality is found among the impoverished, the minorities and the individuals who lack the money to gain access to the health care system.

As a nation, the United States decided to care for the elderly through Medicare; however, it has left pregnant women and infants to fend for themselves. The frustrations enumerated and elaborated in the Alan Guttmacher Institute report were so numerous and of such magnitude that one of

care. Studies by the U.S. General Accounting Office¹⁰ have demonstrated that the greatest barrier to access to health care is financial. Access to health care in most regions of the United States is severely limited where there are poor and underserved populations. Because health care was never adequately financed for poor pregnant women and children, no comprehensive systems of health care were developed in many urban and rural areas. The result has been increased infant mortality and morbidity.

Liability

The effect that liability is having on the cost of health care, limiting the number of providers and access to prenatal care, is staggering. It is estimated that 40% of the

As a nation, the United States decided to care for the elderly through Medicare; however, it has left pregnant women and infants to fend for themselves.

the institute's conclusions was that we should rethink the entire system of health care for mothers and children and begin anew.

Financing health care

Obstetric and infant care has never been adequately funded. A disproportionate share of uncompensated care has always been the responsibility of pregnant women and children.

Access

The first step in improving the health of mothers and infants is to provide universal access to health

obstetricians and gynecologists in the United States will not see Medicaid patients. The reasons are totally obvious. In most states, the cost of malpractice insurance and the existing Medicaid reimbursement would require the physician to deliver 60 to 200 Medicaid pregnant women each year merely to cover the cost of his or her insurance premium. Many obstetricians and family physicians have abandoned the practice of obstetrics altogether. This has left many rural and urban areas without adequate health care providers.

As a nation, we are spending as much or more on the malpractice liability premiums in maternal and infant care as we are on all prenatal care. Such massive liability expenditures have further limited the financial resources to care for pregnant women. In addition, the Congressional Budget Office has determined that 72 cents of every dollar spent on liability insurance is paid directly to medical expert witnesses, attorneys and the insurance industry.

Health insurance

Five million women ages 15 to 44 have private policies that do not cover maternity care. Most women are in plans that impose waiting periods. One-fifth are in plans that exclude those already pregnant, and half do not cover routine physician care for the baby in the hospital.⁷

Low birth weight babies

Perhaps the greatest driving force for change in maternal and infant care in the United States is the high cost of neonatal intensive care. According to studies by the Office of Technology Assessment of the U.S. Congress, the average cost for a low birth weight infant in the United States in 1984 ranged from \$11,670 to \$39,420.8 Because one out of every 15 infants is born with low birth weight, neonatal intensive care is extremely expensive.

Teenage pregnancy

Teenagers rank highest in the incidence of complications during pregnancy and, in most studies, have the highest incidence of low birth weight infants. Therefore, the highest infant mortality rates are among teenagers. They are the least equipped to gain access to health care.

The care of pregnant teenagers has not been a high priority in this nation. A pregnant teenager is instead plunged into a noxious system that provides little or no assistance to her in gaining access to health care, financing that health care and continuing with her education. Neglecting health care and all other services required for pregnant teenagers is a national financial disaster. Not only are low birth weight and handicapped children extremely expensive at birth, but the lifetime morbidity and concurrent loss of educational and employment opportunities for these children will deal a crushing blow to future generations of Americans. Therefore, new approaches to teenage pregnancy must be initiated. We have the knowledge and the capabilities to help pregnant teenagers through the crisis. We must build the support systems to assist young mothers in restructuring their lives to address the areas of parenting, education and health.9 We also must make every effort to reduce the incidence of teenage pregnancy.

Women in the work force

During the past 20 years, millions of women have entered the workplace. Quality health, education and safety for mothers in the workplace, as well as infants in day care, are absolute financial necessities for successful business. The cost of a few very low birth weight infants can bankrupt a self-insured company.

Handicapped children

An infant death is but the tip of the iceberg. For the handicapped, the medical costs, loss of productivity and emotional suffering of parents, family and the child are societal and financial burdens

with far reaching consequences. Because of a lack of foresight in providing comprehensive maternal and infant care, as a nation, we are suffering the consequences of increasing numbers of handicapped children leaving their societal and financial impacts on

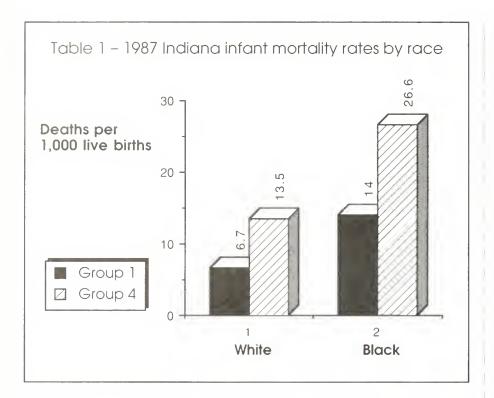
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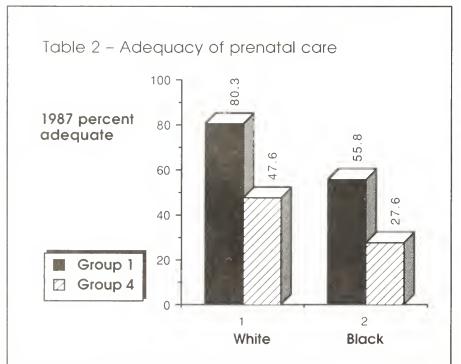
The National Commission to Prevent Infant Mortality made many recommendations for the nation. Perhaps they are best summarized in four priorities. First, we must have universal access to health care for pregnant women and children; second, we must provide quality medical, educational, social and nutritional services to pregnant women; third, we must identify the resources to finance this health care for pregnant women and children. Last, and perhaps foremost, pregnant women and children must be given top national priority for health and educational services.

Indiana infant mortality

Indiana's infant mortality rate has decreased progressively during the last 20 years. In 1987, the overall infant mortality rate for the state was 9.97. However, the black infant mortality rate has not declined since the early 1970s, and in 1987, one out of every 41 black infants born in Marion County died before their first birthday.

The problem of infant mortality extends past racial boundaries. In Indiana in 1987, one of every 16 infants was born low birth weight; one of every 98 births was a fetal death. Premature births, infant deaths and birth problems affect everyone. During 1987, 5,094 low birth weight babies were born in Indiana. At the Office of Technology Assessment, the average cost per infant was estimated to be \$18,000 for neonatal intensive care





costs; the cost to Hoosiers for these low birth weight babies was \$91,692,000.8

The Indiana infant mortality rates for 1987 by race, age and education in deaths per 1,000 live births are given in *Table 1*.

Table 2 is a mirror image of the infant mortality rates. Group 1 had the lower infant mortality rates for both black and white, while Group 4 had the lowest percentage of patients with adequate prenatal care and the highest infant mortality rates. This data clearly suggest that prenatal care is the key to lowering infant mortality rates, as well as the key to cost effectiveness in the prevention of low birth weight infants, and thus, handicapped children.⁶

Previously, all efforts have focused on the development of "high-tech systems" of maternal fetal intensive care units and neonatal intensive care units. There has been a consistent lack of development in perinatal care programs to provide the necessary services for pregnant women and their infants. Nearly all other industrialized nations have developed high quality prenatal care systems. This is, therefore, believed to be a major reason for the United States' high infant mortality rate and is reflected in Indiana's high infant mortality rates and excessive low birth weight rates.

The health care system in maternal and infant care has been rocked by the contrasting forces of liability issues, advances in technology in the fields of prenatal and neonatal care, and increased knowledge gained from genetic testing. Inadequate health care systems for pregnant women in urban areas have existed for many years. The Institute of Medicine

has said that all other mechanisms to reduce infant mortality will not be effective unless, first, the health care system is in place and intact. Outreach, transportation, care coordination and case management are ineffective if there is no provider and if the patient has nowhere to go for prenatal care. In the many steps necessary to reduce infant mortality, the first step must be to mobilize the health care system of providers and, thereby, increase the capacity for providing prenatal services and infant care.

As can be seen from the infant mortality review from the Indiana State Board of Health (ISBH), Indiana's infant mortality can be traced, in part, to special populations of the poor, underserved, minorities and those without education and the finances to obtain adequate and comprehensive prenatal care. However, infant mortality in Indiana is a problem of not only the underserved and minorities.

What has been done

Major initiatives have been started in Indiana to combat infant mortality. Political leadership within the state has been outstanding. The Indiana legislature and Gov. Evan Bayh have expanded Medicaid. Through the leadership of Indianapolis Mayor William Hudnut, a public/private partnership has been formed to begin new initiatives in Marion County. The program changes envisioned for Medicaid by Susan Magnate, head of the Indiana Department of Public Welfare, will positively affect all Indiana physicians. The Hoosier Infant Initiative from the ISBH by Commissioner Woodrow Myers, M.D., has several innovative strategies.

Charlene Lugar, chairman of the Charlene S. Lugar Birth Defects Grant Fund, has been fighting to save infants for the past two decades and has coordinated the development of the MOM-mobile to assist with prenatal care for underserved populations.

SOBRA - The Indiana legislature and Gov. Bayh expanded Medicaid eligibility this year through the Sixth Omnibus Budget Reconciliation Act (SO-BRA) initiative to give more pregnant women and infants financial access to medical care. Studies by the General Accounting Office have proven that the greatest barrier to prenatal care is financial. Therefore, the expansion of SOBRA will improve access to prenatal care in Indiana. Medicaid was expanded as a SO-BRA option to provide obstetric care to all pregnant women with incomes at 100% of the federal poverty level and a continued expansion of 25% per year increments to 150% of the federal poverty level in two years.

Indiana State Board of Health – Several initiatives have been started by Dr. Myers at the ISBH:

1) The Hoosier Infant Initiative included expansion of the Women, Infants and Children (WIC) services to nearly 18,000 additional women and infants in Indiana.

2) A high-risk prenatal comprehensive antenatal risk assessment evaluation clinic was developed in cooperation with the Indiana University School of Medicine to serve the highest risk poor pregnant women in Indiana.

3) The infant mortality review project was begun for Marion County through the Special Project of Regional and National Significance (SPRANS) grant from the Secretary of Health and Human Services.

Marion County – The Marion County Health Department, under the leadership of Frank Johnson, M.D., has developed the programs to begin to provide prenatal care clinics for areas of Indianapolis with unacceptably high infant mortality rates.

MOM-mobile – A MOM-mobile with state-of-the-art ultrasound equipment and fetal monitoring capabilities was developed with the help of the Indiana University School of Nursing, under the guidance of Joanne Martin, R.N., project director, and Charlene Lugar. For the first time, this will allow on-site ultrasonography and non-stress testing for pregnant women at clinic sites within the Marion County Health Department clinics.

ACOG - The Indiana section of the American College of Obstetricians and Gynecologists (ACOG) under the leadership of Bill Graham, M.D., has developed a special prenatal committee of the Indiana Section of the American College of Obstetricians and Gynecologists. The committee's objective is to ultimately assure that all pregnant women in Indiana have universal and early access to prenatal care. This program is a project of Indiana obstetricians and gynecologists, working in collaboration with the Department of Public Welfare and the Indiana State Board of Health.

ISBH risk assessment tool – Because of the efforts of Denise Ingram, M.D., of the ISBH and Indiana maternal fetal specialists, a prenatal risk assessment tool was developed to screen patients prenatally for complications of pregnancy, perinatal deaths, infant deaths and social, nutritional and

medical complications of pregnancy. Pregnant women identified as at risk may be directed to appropriate prenatal services. In addition, Dr. Ingram has played a leading role conducting epidemiological research, co-chairing the Marion County Task Force on Infant Mortality and initiating high-risk infant follow-up programs.

What Indiana physicians have done and can do (Volunteer Indiana Physicians)

Many Indiana physicians already have volunteered their time and effort to reduce infant mortality. A continued and enhanced effort by Indiana's VIPs is crucial

dence of preterm births, handicapped children and infant mortality.

Infant mortality review

Marion County is the first to initiate a county-wide infant mortality review. Infant mortality review committees established in cooperation with community hospitals, the ACOG and the Academy of Pediatrics and Family Physicians can, through the study of infant deaths, delineate the major causes of infant mortality problems within each community. With the complexities and causes of infant mortality and various medical services available for pregnant women and infants, each

review committee consisting of obstetricians, pediatricians, family physicians and hospital administrators, along with consultation from the political leadership, can help the community address infant mortality.

Prenatal care

During the past 20 years, major advances have been made in knowledge, understanding, technologic capabilities and therapy for the pregnant woman and fetus during prenatal care. The prenatal care provider should consider the fetus an important patient in the care of the pregnant woman. The scientific advances in assessing and treating the fetus in utero have outstripped our philosophical, ethical and ideological understanding. Perhaps nowhere in medicine has the impact of science, philosophy, religion and ethics been more confusing and confounding than in the delivery of prenatal care.

The scientific knowledge is now available to diagnose all chromosomal defects in early pregnancy with greater than 99% accuracy. With tertiary ultrasound, a high degree of accuracy in the diagnosis of most congenital malformations, including nearly all congenital heart disease, skeletal defects, hydrocephaly, etc., can be made early in pregnancy. The prenatal care provider is now left with the ethical and medical dilemmas of how far to extend diagnostic capabilities in the care of the fetus. Perhaps nowhere in medicine are informed consent and the physician-patient relationship more critical than in the counseling of pregnant women regarding inherited diseases and congenital malformations.

Many studies have demon-

A continued and enhanced effort by Indiana's VIPs is crucial to change the course of prenatal care for Hoosier women, improve pregnancy outcome and answer the cry for help from Indiana infants.

to change the course of prenatal care for Hoosier women, improve pregnancy outcome and answer the cry for help from Indiana infants. Indiana physicians provide the health care for mothers and infants. Physicians providing medical care can, in addition, play a major role in improving the community and health services for pregnant women and infants in an effort to further reduce infant mortality. By working with hospitals and medical organizations and assisting with public health departments and prenatal clinics, physicians can provide direct medical care and the leadership necessary for prenatal and infant programs to help reduce the inci-

community is unique and will require individual enhancement of services.

In some Indiana communities, the major problems are access, capacity and an inadequate number of providers for prenatal care services. In other communities, risk assessment and identification of infants who need infant followup will be a top priority. Perhaps, in other communities, social services, WIC programs and clinic hours may be inadequate. Therefore, through the Infant Mortality Review Committee, each community can assess its own special needs, the causes of infant mortality and probable solutions. A hospital-based, infant mortality

strated the benefits of comprehensive prenatal care. The physician will have to decide which service, whether medical, nutritional, social or genetic, is appropriate for the pregnant woman and fetus. A partial list of services that may be necessary is found in *Table 3*.

Numerous studies have demonstrated the benefits of comprehensive prenatal care in reducing the incidence of fetal deaths, infant deaths and premature births and in improving the outcome of pregnancy. However, one of the greatest fallacies fostered by and to the public during the past two decades is that the pregnancy outcome is always perfect. No pregnancy can be guaranteed a perfect outcome.

Even a superficial review of obstetric statistics identifies the problems of pregnancy outcome: 1) fetal deaths – eight per 1,000 live births; 2) premature births – 7%; 3) infant mortality – one of every 100 births; 4) major congenital malformations of extreme devastating effects for cost, emotional suffering of the family and the child – one of every 200 births; 5) minor congenital malformations at least one of every 100 births; 6) infectious disease process affecting the fetus or potentially causing preterm birth – one of every 100 pregnancies; 7) 3% to 5% of patients having premature rupture of the membranes; 8) Cesarean section incidence varying from 10% to 35%; 9) significant anemia one of every 20 to 30 patients; and 10) one of 50 infants born with a significantly low Apgar score and nearly 300 level three intensive care nursery beds fully occupied in Indiana.

The list of known problems and complications that occur during prenatal care and pregnancy is

Table 3

Comprehensive prenatal care

Psychosocial services

Psycho-social counseling Transportation Risk assessment Evaluate support system Lifestyle modification Financial counseling Medicaid enrollment Other assistance

Medical obstetric care

Prenatal risk assessment Medical history Examination Laboratory evaluation Ultrasound screening Screening for infection Obstetric monitoring

- fetal evaluation
- premature delivery prevention
- diabetes
- hypertension
- multiple gestations
- adolescent pregnancy

Infant follow-up services

Follow-up for infants ICN Educational programs

- parenting skills Case management for high-risk

- special care nursery
- intensive care nursery

Child abuse, neglect prevention

Nutritional services

Nutritional counseling Registration for WIC Special needs counseling

- diabetes
- adolescent
- obesity
- nutritional deficiency

Education

Intervention programs

- alcohol
- smoking
- drugs

Childbirth classes Family planning Parenting

Genetic services

Genetic counseling Genetic evaluation and screening for malformations:

- fetal alcohol syndrome
- chromosomal defects
- drug-induced defects
- inherited conditions
- neural tube defects
- environmental hazards

Special nursing services

Care coordination
Case management
Education

endless. This article cannot list all complications of pregnancy. Rather, the point is that pregnancy carries significant complications for the fetus and the newborn infant. Through comprehensive prenatal care, morbidity and potential mortality have begun to be predictable and, therefore, possibly preventable.

With the modern technology of ultrasonography, there is no

longer any reason for an undiagnosed multiple gestation after 14 weeks of pregnancy. Intrauterine growth retardation can be diagnosed and the course of the fetus evaluated and followed with ultrasound. If there is a failure of continued growth or loss of fetal weight in utero, the decision for delivery and intervention in the pregnancy to prevent further complications to the fetus can be made. More than 800 congenital malformations can be diagnosed with ultrasonography. Almost daily, new diagnoses are made with ultrasound in pregnancy. Pregnancies with oligohydramnios and intrauterine growth retardation may be best diagnosed and treated with serial ultrasonography, biophysical profile and umbilical artery vesselometry.

A number of studies in the literature relate to the significance of infections and preterm labor. Certainly, much of this data needs further clarification; however, there is no question about the need for diagnosis and therapy of STDs, vaginal infections, urinary tract infections, vaginal streptococcal infections in preterm labor with preterm infants, screening for rubella, attempts to prevent toxoplasmosis and education of the patient regarding AIDS prevention.

Nutrition has gained a broader definition in the past 20 years in medicine in general and certainly in obstetrics. For example, today when we discuss nutrition, we mean the absolute control of blood sugar in the pregnant diabetic. By maintaining normal blood sugar levels, before conception and throughout pregnancy, many complications of the fetus in a diabetic pregnancy can be avoided. This includes macrosomia, respiratory distress, probably some congenital malformations, polyhydramnios, fetal death and neonatal hypoglycemia.

Studies 30 years ago in Guatemala and Taiwan proved that infant mortality could be reduced in areas of extreme nutritional deprivation by providing nutritional supplementation to women and children. Research like this

was the origin of the WIC program. The physician providing prenatal care can assure adequate nutrition is available for pregnant women by referral to WIC programs. Data suggest that pregnant teenagers who do not have adequate nutrition can harm themselves and the infant. Certainly, multiple nutritional factors affect pregnancy outcome.

Excellent studies from Scandinavia have demonstrated that multiple vitamins and minerals in the early months of prenatal care may statistically decrease the incidence of neuro tube defects in women who delivered a prior child with one of these malformations. Collaborative studies of this nature are now being conducted in the United States. Data recently published in the New England Journal of Medicine show anemias as a significant predictor of premature births and adverse pregnancy outcome. Alpha-fetoprotein levels, both high and low values, are predictive to varying degrees for preterm labor, fetal death, preeclampsia, chromosomal abnormalities, significant malformations and premature rupture of the membranes. The routine screening of all pregnant women with alpha-fetoprotein at 16 weeks of pregnancy can be valuable in predicting a high-risk pregnancy.

Several studies have shown that preterm births can be reduced significantly in certain populations of patients with a premature labor prevention program. What is not entirely clear is which services are most effective in reducing the incidence of premature births. The data suggest that diagnosis and treatment of infections are one approach to preventing premature labor. Such infections

include vaginosis and urinary tract infections. Other studies have shown that the reduction of stress for pregnant women through psychosocial services has had the greatest impact in reducing preterm births. Other studies have concluded that home monitoring or screening patients for uterine contractions has been most effective in the early diagnosis and prevention of preterm labor before cervical dilation occurs. Treatment with either bed rest, tocolytic agents or other modalities all have been somewhat effective in the reduction of preterm births. Certainly, physicians will make the prevention of preterm births a major goal in providing prenatal care. Preterm labor is the most significant cause of infant mortality and one of the most significant causes of handicapped children.

High-risk patients who are known to be at risk for preterm labor need evaluation and attempts at preterm labor prevention. These patients include women with multiple gestations, prior uterine scars and incompetent cervix, women exposed to DES and women with threatened preterm labor. Evaluation would include tertiary ultrasonography for congenital malformations, screening for infectious diseases, stress reduction and considerations for McDonald or Shirodkar procedures.

Prenatal care is health promotion, disease prevention, cost effective and one of the most important keys to unlocking the mystery of infant mortality.

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recent court rulings

Good Samaritan statutes apply in hospital emergencies

Until the last few years, state courts generally held that their Good Samaritan statutes immunized physicians only for providing medical assistance in unexpected emergencies such as highway accidents. Recently, however, some state courts have protected physicians not only for acting as Good Samaritans at the roadside but for voluntarily providing emergency medical assistance in hospitals.

Illinois

In Illinois, a physician provided emergency care to a pregnant woman suffering a cardiac arrest in the hospital where he was on staff. The physician provided respiratory and cardiac resuscitation until the patient's own physician arrived. The patient and the 37-week fetus died. When the husband sued the physician who provided emergency care, as well as three other physicians and the hospital, the trial court granted the first physician's motion for summary judgment.

The husband appealed, and the Illinois appellate court affirmed the trial court and held that the Good Samaritan statute applied to "a physician who, in good faith and without prior notice of the illness, renders emergency care without charging a fee." Although the hospital sent the husband a bill, the court found that it did not include charges for the physician's services. Moreover, the hospital's rules and regulations did not require medical staff members to render emergency care and, therefore, the physician had no duty to treat the patient merely because he was a member of the hospital's medical staff.

The court alluded to "the other requirements" of the Good Samaritan statute having been met

without more discussion. Those other requirements are that the Good Samaritan's actions not be "willful or wanton misconduct," a standard far removed from negligence. The court affirmed the trial court's granting of the Good Samaritan physician's motion for summary judgment on the negligence issue as well as on the Good Samaritan defense. — Johnson v. Matviuw, 531 N.E.2d 970 (Ill. App. Ct., Nov. 28, 1988; rehearing denied, Jan. 3, 1989).

California

In California, two opinions each have held that in a situation involving a physician on a hospital medical staff who happens to be in the hospital and give emergency aid to a patient who was not his there is no duty by the physician to the patient, and the Good Samaritan statutes apply.

In Burciaga v. St. John's Hospitals, 232 Cal.Rptr. 75 (1986), an appellate court held that a pediatrician who treated an obstetrician's patient's newborn infant in the hospital in response to a medical emergency was protected from liability claims by the state's Good Samaritan law. This pediatrician responded to the "stat" call for a pediatrician while he was visiting his own hospital patients.

The pediatrician provided emergency aid to the infant and decided that the infant required treatment in a neonatal intensive care unit. The hospital did not have that service, and the county unit was full. The pediatrician found placement in another hospital, canceled his office appointments and treated the infant.

The court found that this physician was not designated by the hospital to treat newborns in the event of an emergency and had no duty to respond to the emer-

gency. In fact, the obstetrician did not customarily refer patients to this pediatrician. The Good Samaritan law applied to emergencies both "within and without a hospital."

More recently, a California appellate court ruled that a physician who happened to be in the hospital when a surgeon requested assistance during an operation was providing medical care in an emergency within the meaning of the Good Samaritan laws.

In Kearns v. Superior Court of Los Angeles County, 252 Cal.Rptr. 4 (1988), a surgeon was operating to remove a malignant ovarian tumor when he found he could not remove it without additional assistance. He requested a physician's assistance in order to complete the operation. During the surgery, the malignant contents of the tumor spilled into the patient's abdomen, seeding it with cancer cells.

The patient sued the surgeon and the physician. The appellate court stated that when an operating surgeon determined that assistance was necessary during ongoing surgery to protect the health of a patient, an emergency existed for the purposes of the Good Samaritan laws.

A note of caution, however: California has disallowed Good Samaritan statutory immunity in a case involving the members of a hospital's emergency call panel, finding that they had a pre-existing duty to provide emergency medical treatment. *Colby v. Schwartz*, 144 Cal.Rptr. 624 (1978).

Georgia

In Georgia, an appellate court has twice held that the Good Samaritan statute applied to emergency care performed in a hospi-

■recent court rulings

tal by a physician, but that summary judgment was not appropriate because questions of fact remained unresolved. In Clayton v. Kelly, 357 S.E.2d 865 (1987), there were questions remaining as to whether the hospital's rules and regulations required the physician to provide the emergency medical care at issue. Similarly, in *Henry* v. Barfield, 367 S.E.2d 289 (1988), the appellate court held that a question of fact remained as to whether the physician was a volunteer who did not have a preexisting duty to provide medical

assistance.

Michigan

In Michigan, a pediatrician responded to a call for assistance from the delivering physicians of a newborn having difficulties. The pediatrician was responding to a life-threatening emergency, and his alleged misreading of the infant's x-rays and performance of a lumbar puncture constituted ordinary negligence at most. The Michigan Good Samaritan statute excludes willful and wanton misconduct from immunity but im-

munizes ordinary negligence. Therefore, the appellate court held that the statute protected the pediatrician from liability.

Conclusion

These opinions do not bind courts outside of the court's respective jurisdictions; however, these decisions can help to establish the legal foundation for similar rulings by courts in other states. – Terrie A. Rymer, J.D., staff attorney, Health Law Division, American Medical Association.

Physician's motion for discovery denied due to privilege provisions

All proceedings, communications and determinations occurring within the peer review process were privileged, an Indiana appellate court ruled.

A physician who was denied appointment to a hospital medical staff sued hospital trustees for breach of contract. During pretrial discovery, the physician deposed parties involved in the peer review process concerning his appointment. He sought information as to why the hospital repudiated its purported agreement with him.

The deponents refused to disclose what happened at various meetings held regarding the peer review process or any statements about the physician made during private, informal conversations. The trial court denied the physician's motion to compel discovery.

On appeal, the physician contended that the trial court erred in denying his motion to compel discovery. The physician said the hospital claimed in part that it was justified in breaching the

contract because the physician lacked the requisite professional qualifications, shown by his failure to receive staff approval.

The physician contended that the information sought would establish that the staff's decision was based on nonprofessional grounds, thus defeating the justification defense. However, the hospital did not raise the justification issue in its answer to the physician's complaint. Therefore, the information sought by the physician was not relevant to the issues in the complaint.

Even if the information sought were relevant, the court said, the confidentiality and privilege provisions of the state's peer review statute clearly and unambiguously prohibited disclosure of any content of communications to or determination of a peer review committee. The fact that some of the discovery requests concerned statements made during private conversations did not change the result, the court said. Any statements made about the physician during such conversations might

have shaped the opinions of the participating physicians, and the opinions could have been carried into the peer review meetings. Therefore, to permit discovery of the conversations might permit the physician to discover the communications proceedings and determinations made under the peer review process, undermining the provisions in question.

The court said there was no subject matter limitation on the privilege and communications made in bad faith were included. Finding that the privilege did not violate the physician's due process rights, the court said the statutory provision permitting the health care provider's review of committee records regarding his personal practice and giving him the right to appear before the committee to hear its findings and offer rebuttal evidence more than adequately met the physician's interests. The court affirmed the lower court's judgment. — Frank v. Trustees of the Orange County Hospital, 530 N.E.2d 135 (Ind. Ct. of App., Nov. 14, 1988). 🗖

recent court rulings

Federal "patient dumping" statute incorporates state statutory cap

A federal district court for southern Indiana held that the federal "patient dumping" statute, which creates a private right of action against hospitals that transfer or refuse to accept patients who are unable to pay and which allows damages in the amounts allowable in state personal injury lawsuits, incorporates the state statutory cap on the amount of damages recoverable in medical malpractice claims but does not incorporate state procedural limitations on medical malpractice claims.

As a husband and wife were involved in a serious accident, and the wife was brought to the hospital's emergency room. After certain physicians at the hospital examined and treated the wife, they transferred her to another hospital, where she died. The husband sued the first hospital, claiming the hospital failed to provide appropriate medical care and transferred his wife before her condition was stabilized.

The husband sued under the federal statute designed to deter "patient dumping." The term "patient dumping" refers to the practice of those hospitals that, despite being capable of providing the needed medical care, send patients to other facilities or turn patients away because those patients are unable to pay.

In addition to creating penalties that could be imposed by the government, this statute allows a private cause of action against a hospital that improperly transfers a patient. However, the statute incorporates state standards to delineate the damages that would be available through such civil action; specifically, an individual

may recover "those damages available for personal injury under the law of the state in which the hospital is located." In Indiana, medical malpractice actions are statutorily limited in two different ways: They are limited procedurally by requiring that a complaint first be presented to a medical review panel, and they are limited in the amount of damages that may be recovered.

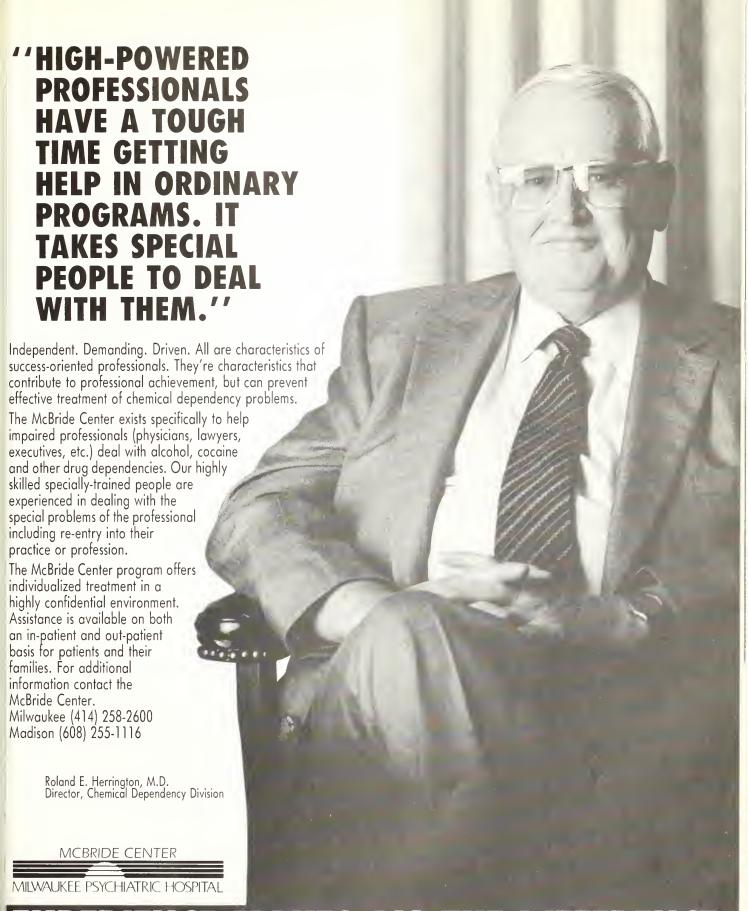
The hospital moved to dismiss the claim because the plaintiff's claim falls within the scope of the Indiana medical malpractice statute, but he admittedly did not file his proposed complaint with the medical review panel, as required by the statue. The husband countered by arguing that the federal "patient dumping" statute established a federal standard of care for hospital treatment based on strict liability. Because the hospital conceded that the Indiana medical malpractice statute established a negligence standard, the husband claimed that there is a direct conflict between these statutes, and the federal statute must therefore prevail under the express pre-emption clause of the federal law. As a result of this pre-emption, the husband claimed that neither the Indiana procedural limitation or the limitation on the amount of damages applies.

The federal district court held that the hospital's interpretation of the federal statute was too broad, and the husband's interpretation was too narrow. There is no known example of a federal statute incorporating state procedural limitations on a federal cause of action brought in a federal court. The court explained

that even if it were reasonable to interpret the federal statute as incorporating state procedural restrictions, such incorporation of Indiana's statute would be barred by the federal law's pre-emption clause. Moreover, since the Indiana medical malpractice act is based on negligence and the federal law is based on strict liability, an opinion by the Indiana medical review panel would be irrelevant.

One the other hand, the court found the husband's reading of the statute untenable because it would render meaningless the federal statute's incorporation of state standards for damages. The court pointed out that Congress, when drafting the federal legislation, was aware of the concern in some states of a malpractice crisis fueled by excessive damage awards and that some states had enacted caps on medical malpractice damage awards. Clearly, Congress intended to acknowledge and preserve these caps by use of the incorporation language in the statute. Therefore, in states such as Indiana with a cap on malpractice awards, the amount of damages allowable when suing under the federal "patient dumping" statute is the amount available under the state medical malpractice statute. — Reid v. Indianapolis Osteopathic Medical Hospital, Iuc., 709 F.Supp. 853 (D.C., Ind., April 13, 1989). - Terrie A. Rymer, I.D., staff attorney, Health Law Division, American Medical Association.

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editorial

Adolescence in Indiana - 1989

W. Craig Spence, M.D. Indianapolis

Following a third suicide attempt, 16-year-old Marian was removed from her biological parents' care and admitted to a mental health facility.

A product of the 1960s, she had travelled throughout the Far East with her college-educated parents, practicing cult worship and participating in bizarre, sexually abusive rituals. When she returned to Indiana, Marian became cachectic from bulimia, despondent and self-destructive; she received mental health services and eventually was placed in a residential care institution for children, where she continues to adapt successfully to adolescence.

The evolution of adolescent medicine as a defined entity has occurred in response to the increasingly specialized requirements of young adults like Marian. Once viewed as an obligatory period of puzzling recalcitrance, adolescence, "a pivotal time for health-related learning and socialization," has now been recognized as manageable and responsive to the sensitive caregiver. Today's teens are physically bigger, healthier and brighter than the teens of yesteryear. Despite facing seemingly insoluble social ills and lifestyle dilemmas, behavior remains essentially the same.² Popular books, magazines and professional medical journals address the theory of adolescent behavior, its consequences and its management.

Indiana physicians have a pivotal role in dealing with most Hoosier teens, both healthy and troubled, and often are the only source of meaningful preventive

and substantive health advice. The multifaceted problems facing teens (e.g., substance abuse, STD, pregnancy, depression) are our problems as well. A recent study found that middle school students now report physicians are their second most frequently used source of health information, after their parents, and they consider physicians as the preferred source for health information.³

The onset of puberty, by its nature, is a major stressor. The physician, willing to discuss proper health promotion and maintenance in a non-judgmental fashion, can help reduce that stress. The physician also can anticipate children who are at risk because of moves, family illness or death, divorce or lower intellect and can take action before such major disruptions bring lasting harm.4 Such anticipatory guidance may abate premature sexual experimentation, affective or nutritional disorders or mainstream substance abuse. However, the most inspired guidance may not work. We may often notice failures and lose sight of those moments that have made a difference. Evidence suggests that most Hoosier teens are wonderfully resilient and responsive to professional instruction, hearing what we often believe was ignored.

What are the consequences of maladaptive behavior in those teens we haven't reached in Indiana? In 1986, Indiana had the fourth worst national rate for births to black teens, and ranked third in the percent of all unmarried mothers who were teens. Our teen suicide rate increased steadily from 8.3 per 100,000 in 1984 to 10.6 per 100,000 in 1986, while adolescent motor vehicle deaths increased during the same

period. Nearly 91,000 of our nearly 900,000 adolescents are estimated to live at or below the poverty level. A recent survey, conducted with 100 adolescents from broken homes, suggested that nearly one-third suffered from suicidal thoughts, and onehalf scored in the significantly depressed range on a standardized tool. Alarmingly, one-third reported regular use of marijuana or alcohol either before, during or right after school.5 There were more than 20,000 school drop-outs in 1985-86 in Indiana.6

Sexually transmitted disease among teens also is increasing. Some college campuses report an incidence of 85% non-gonococcal urethritis among STD visits. As much as two-thirds of community-acquired gonorrhea can be asymptomatic. The incidence of cervical or vulvar epithelial neoplasia, secondary to human papilloma virus, once the diagnosis of older women, is skyrocketing in young adults.⁷

The Centers for Disease Control (CDC) report the incidence of AIDS at 1% of total cases in the 13- to 21-year-old group. However, the incidence of AIDS in the 21- to 29-year-old group jumps to 20% of the national total. Since the average incubation time from initial infection to AIDS is at least seven years and adolescents participate in high-risk activity, the potential for an epidemic associated with adolescence is great; furthermore, heterosexual intercourse represents a major mode of transmission in teens.7

The news, of course, is not all bad. Despite the increasing numbers of disintegrated families and peer pressure to participate in high-risk behavior, most teens become productive, well-adjusted

■editorial

citizens, permitting us to focus increased efforts at rehabilitation of the increasing numbers of troubled youth. Statewide public health advocacy for school-based health services (four in Indiana presently), the hiring of a full-time state adolescent health coordinator, pregnancy substance abuse prevention and free pregnancy test programs, are among state and federally funded initiatives designed for high-risk youth. Physicians must continue to monitor trends, participate in the identification and treatment of troubled youth at the community level, and serve as adolescent advocates at all levels.

Physicians are by their very natures "counselors." Any discus-

sion with an adolescent is an opportunity to talk about family, school, peers, accomplishments and disappointments – the entry into "counseling." With reassurance of confidentiality and reactions of support and understanding from physicians, the typical adolescent will respond to specific advice and act on it – actions that will embody goal-directed, sensible behavior in adulthood.

The author is a consultant for the Indiana State Board of Health and the medical director of the Indiana Soldiers and Sailors Children's Home.

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auxiliary report

Joann Wehlage Ellaine Cox ISMA Auxiliary

This is the second article that we have been privileged to write for INDIANA MEDICINE. We have this privilege by acting as co-chairmen of the ISMA Auxiliary's AMA-Education and Research Foundation (AMA-ERF) for two consecutive years. We are dedicated to this cause because we have spouses who have medical educations and children who have chosen medicine as their profession.

While supporting this effort, we have been asked repeatedly, "Why?" and "What is done with the millions of dollars?" We decided to let those who really know answer those questions. We asked Dean Walter Daly, M.D., of the Indiana University School of Medicine to write a brief explanation of the use of monies donated to Indiana University. (Grants to I.U. in March 1989) were: Medical Student Assistance Fund – \$12,661.75; Medical School Excellence Fund - \$31,040.92). The week that we approached Dr. Daly with our request, we received a thank-you letter from a student recipient in the Summer Academic Enhancement Program. Excerpts from those letters follow:

"Please accept my thanks for your hard work and contributions in support of AMA-ERF. In Indiana, money coming to the School of Medicine from your efforts is used for the direct support of our students. Some is used for regular scholarships, and some is used for their support during summer academic enhancement programs.

"As the only medical school in Indiana, we have the obligation to provide a major fraction of the physicians of the state and to provide our young people with superior educational opportunities as they seek careers in medicine – in all of its many facets.

"In Indiana, we have one of the smallest medical student-to-population ratios in the country. Over the past five years, it has become even smaller as we have set out to strengthen our educational programs.

"I have no doubt that our graduates will continue to provide the best possible medical care far into the future. In looking ahead to that responsibility, we are all concerned about attracting outstanding future physicians to the profession; that and providing them with an educational experience to help them best prepare for their future work remain our primary concerns.

"The costs of medical education continue to increase. More and more of our students graduate with substantial debts. Thus, the support for direct financial aid is invaluable. Many schools are now actively competing for students from the diminished pool of applicants and using scholarships to attract them.

"I believe your contributions to these programs will help to assure that we can continue to provide the people with the best possible physicians and that today's physicians have colleagues of whom they will be proud." – Walter J. Daly, M.D.

"... I greatly appreciate the opportunity to do research this summer and the generous donations that the Indiana State Medical Association Auxiliary makes to the AMA-ERF. I thought it would be appropriate to bring you up to date on my project.

"Under the direction of George Tanner, M.D., I have been examining the phenomenon of volume regulation in proximal kidney tubule cells when exposed to a hypertonic solution. ...Volume regulation under hypertonic stress has important clinical value as it can result from kidney failure, hyperglycemia, and even excessive alcohol intoxication. Dr. Tanner will continue this project in my absence, with the ultimate goal of implanting micro-electrodes into the tubule cells in order to quantitatively measure ion flux during volume regulation.

"Once again, I would like to thank you and applaud you for your hard work and dedication to education. I am certain that this experience will benefit me in my medical career." – Russell W. Snook, I.U. medical student

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INDIANA MEDICINE/November 1989

(See instructions on reverse)

news briefs

23-year-olds taken off policies

Letters were mailed in October to physicians and employees with 23-year-old children covered under their Lincoln National Life health insurance policies to remind them that these children will be taken off their policies Dec. 31.

These children may purchase separate policies that can be continued through the end of the year they turn 29 or until they marry, whichever comes first.

Information on separate policies and application forms will be included with the letters. Applications for new policies should be sent to ISMA and must be postmarked no later than Dec. 31 to guarantee continued coverage.

If you have a 23-year-old child on your Lincoln National health insurance policy and you have not received a letter, call the ISMA Insurance Department.

Education series to address health care problems

Audio-Digest Foundation, a non-profit subsidiary of the American Medical Association, announces a special series of three new postgraduate continuing medical education Category I-approved programs. This series will address three major health care problems - substance abuse, AIDS and risk management.

For a free copy of these brochures, detailing programs and speakers, contact Audio-Digest Foundation, Subscriber Service Department, 1577 E. Chevy Chase Drive, Glendale, CA 91206, 1-800-423-2308 or in California, 1-800-232-2165.

Patients needed for new study

The National Cancer Institute is seeking the referral of patients with metastatic colorectal carcinoma to evaluate new programs for the diagnosis and treatment of this disease. Patients with resectable or unresectable metastases are eligible for these studies. The studies include immunotherapy treatment involving the administration of interleukin-2.

Patients must have a good performance status (ECOG 0 or 1) without significant cardiac or pulmonary dysfunction or central nervous system metastases. To refer a patient or obtain more information, contact David N. Danforth Jr., M.D., Admitting Officer, Surgery Branch, National Cancer Institute, Building 10, Room 2B38, Bethesda, MD 20892, (301) 496-1533 collect.

International Congress to meet in February

The International Congress III on Lasers, Stents and Interventions in Vascular Disease will meet Feb. 11 through 16 at the Phoenician Resort in Scottsdale, Ariz. More than 60 exhibitors will

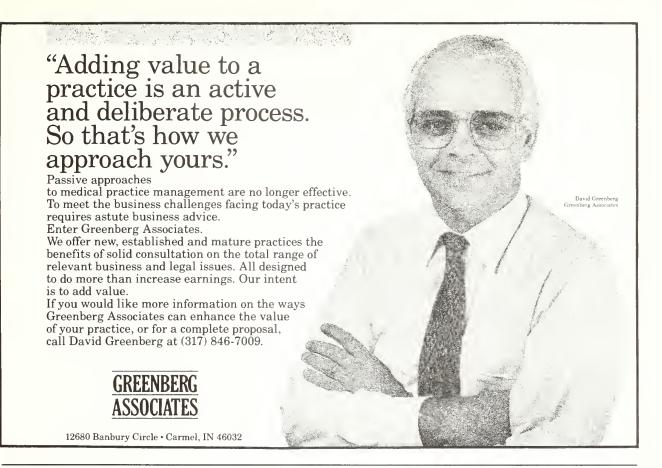
display the latest laser equipment, catheters, atherectomy devices, stents and diagnostic equipment. This year, the Congress will certify physicians for vascular interventions (laser, stent, atherectomy, angioscopy and intravascular imaging).

For more information about the meeting, contact Congress Coordinator, International Congress III, P.O. Box 10,000, Phoenix, AZ 85064, (602) 266-2200.

Accutane users sought

Boston University's School of Public Health is seeking participants for a follow-up survey of women of childbearing potential who take Accutane[§] (isotretinoin/Roche), a drug used to treat the most severe form of cystic acne, severe recalcitrant cystic acne.

The third-party survey, now underway at the university's Slone Epidemiology Unit, is an integral part of the Pregnancy Prevention Program for Women on Accutane. This program was developed last year by Hoffmann-La Roche Inc. in cooperation with the U.S. Food and Drug Administration to re-emphasize longstanding warnings that, due to the risk of severe birth defects, Accutane must not be used by women who are pregnant or who may become pregnant while undergoing treatment. 🖵



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people

Dr. Patricia A. Keener, an Indianapolis pediatrician, received the Otis R. Bowen Award from the Marion County Medical Society for her community volunteer work with various organizations; she is the founder of Safe Sitter, Inc., a national organization dedicated to the education of the early adolescent in medically responsible babysitting.

Dr. Gonzalo T. Chua, Indianapolis; Dr. Daniel R. Elliott, Carmel; and Dr. Richard L. Pitman, Columbus, were named fellows of the American College of Radiology during ceremonies at its meeting in Seattle, Wash., in

September.

Dr. Alvin J. Haley of Indianapolis has been nominated to a position on the American Board of Family Practice board of directors by the American Academy of Family Physicians board of directors.

Dr. William H. Beeson, Indianapolis, secretary-elect of the American Academy of Facial Plastic and Reconstructive Surgery (AAFPRS), has been named to the Midwestern regional executive committee of AAFPRS' Educational and Research Foundation's Forum on Surgical Excellence in Facial Plastic Surgery.

Dr. Bradley L. Kudlaczyk, a plastic and reconstructive surgeon, has joined the practice of Dr. John G. Panzter, he also has joined the medical staff at Meth-

odist Hospital of Indiana.

Dr. Joseph M. Daly, an Indianapolis pediatrician, is now a columnist for *The Gazette*, a Greenwood newspaper; he will cover a wide range of medical issues.

Dr. Timothy L. Hobbs, an Anderson family practitioner and vice president of the medical staff at Community Hospital, was ap-

pointed to its board of directors.

Dr. William J. Miller, director of radiology at Lafayette's Home Hospital, and Dr. Freeman Martin, an Indianapolis family practitioner, were appointed to 4-year terms on the executive board of the State Board of Health.

Dr. Frank P. Lloyd, former president of Methodist Hospital of Indiana, has been named chairman of the White River Park Development Commission.

Dr. Peter L. Winters, an Indianapolis dermatologist, has been chosen president of the Marion County Medical Society.

Dr. Clementine E. Frankowski of Whiting celebrated more than 50 years of medical practice at St. Catherine's Hospital.

Dr. Daniel P. DeCamp has been appointed medical director of the Putnam County Hospital Emer-

gency Department.

Dr. Randall C. Morgan Jr., an orthopedic surgeon in Gary, was elected vice speaker of the House of Delegates at the 94th Annual Convention and Scientific Assembly of the National Medical Association in Orlando, Fla.

Dr. Eugene G. Roach, medical director of Anderson Center of St. John's, has been appointed executive director of its chemical dependency and mental health treatment facility.

Dr. Jane M. Bridges, a family practice resident in Fort Wayne, was one of 25 resident physicians honored by the American Medical Association and Burroughs Wellcome Co. for their community service work.

New ISMA members

Andrew N. Beagle, M.D., Evansville, diagnostic radiology. Lisa A. Bleeke, M.D., Indianapolis, family practice.

Richard E. Braun, M.D., Fort

Wayne, unspecified.

David A. Cory, M.D., Indianapolis, diagnostic radiology. Charles D. Franks, M.D., Evansville, urological surgery.

Richard E. Fry, M.D., Beech Grove, general surgery.

Gregg M. Gaylord, M.D., Indianapolis, diagnostic radiology.

John A. Heidingsfelder, M.D.,

Evansville, anatomic pathology. Kevin R. Kristl, M.D., Evansville, neurology.

Benjamin B. Kuzma, M.D., Indianapolis, radiology.

Earl E. Lanter, M.D., Indianapo-

lis, ophthalmology. Lloyd O. Long, M.D., Chandler,

general practice.

Kathleen B. McMurray, M.D.,

Indianapolis, obstetrics/gynecology.

Mark F. Morrison, M.D., Evansville, obstetrics/gynecology. Patricia B. Morrison, M.D.,

Evansville, psychiatry. Stephen E. Muething, M.D., Batesville, pediatrics.

Baikadi Å. Ravindra, M.D., Kokomo, internal medicine.

R. Thomas Schmidt, M.D., Indianapolis, general surgery.

Robert G. Shellman, M.D., Indianapolis, internal medicine.

Karen J. Shirrell, M.D., Indianapolis, internal medicine.

Thomas A. Swafford, M.D., Evansville, gastroenterology. Stephen E. Syler, M.D., Tell City, family practice.

Alan F. Wise, M.S., Indianapolis, general surgery.

Residents

Laurence M. Adams, M.D., Indi-

people

anapolis, family practice. Derek Grossman, D.O., South Bend, general practice.

Francis J. Hickey, M.D., Batesville, pediatrics.

Bradley L. Kudlaczyk, M.D., Indianapolis, plastic surgery. Ronald T. Martin, M.D., Indian-

apolis, ophthalmology. Christina L. Miller, M.D., Indianapolis, family practice.

Kathleen A. Miller, M.D., Noblesville, pediatrics.

Alan L. Schwartz, M.D., Indianapolis, pediatrics.

Lynnette M. Sullivan, M.D., Elkhart, pediatrics.

David J. Underhill, M.D., Fort Wayne, traumatic surgery.

Catherine R. Wagner, M.D., Indianapolis, pediatrics.

H. Jeffery Whitaker, M.D., Beech Grove, orthopedic surgery.

Physician Recognition Award recipients

The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.

Beeson, Wilbur P., Greenfield Bluth, Steven A., South Bend Cordano, Angel, Evansville Eliades, Anne, Muncie Friedman, Morris S., South Bend Gardner, Austin L., Indianapolis Ho, Terry J., Terre Haute Klutinoty, George II, Carmel Krol, Katharine L., Granger

Lim, Young S., Evansville Norins, Arthur L., Indianapolis Osborne, John V., Muncie Pillai, Vijayan V., Bedford Sekulich, Milo M., Kokomo Smith, James W., Indianapolis Stolz, Thomas J., Otterbein Van Hove, Eugene D., Carmel Woodward, William M., Westville

drug names

Look-alike and sound-alike drug names

ALDORIL

Category: Brand name: Generic name: Antihypertensive Aldoril, MSD Hydrochlorothiazide-

methyldopa

Dosage forms:

Tablets

ALDOMET

Antihypertensive Aldomet, MSD

Methyldopa & methyldopate

Tablets, oral suspension,

injection

Category: Brand name:

Generic name:

Dosage forms:

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Prazepam Capsules

CENTRUM

Vitamin

Centrum, Lederle Multivitamin preparation

Tablets

Benjamin Teplitsky, R. Ph. Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions.

Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such lookalike and sound-alike drug names can reduce potential errors.

obituaries

Charles B. Carty, M.D.

Dr. Carty, 59, a Pekin family practitioner, died Sept. 14 at his home.

He was a 1956 graduate of the University of Louisville School of Medicine and served in the U.S. Air Force as a commander of the 837th Tactical Hospital. He was awarded the Air Force Commendation Medal and the Outstanding Unit Citation.

Dr. Carty was an ISMA alternate trustee from the Third District and a former secretary and president of the Washington County Medical Society. He was a past chief of staff of Floyd Memorial Hospital.

Edward J. Dierolf, M.D.

Dr. Dierolf, 76, a retired Gary general practitioner, died Sept. 4 in Marco Island, Fla.

He joined the staff of St. Mary Medical Center (Mercy Hospital) in 1942 and served in World War II as a military surgeon. He also was a former staff member at Methodist Hospital.

Dr. Dierolf retired in 1976.

William J. Fitzgerald, M.D.

Dr. Fitzgerald, 76, a retired general practitioner, died Sept. 20 at his Indianapolis home.

He was a 1939 graduate of the St. Louis University Medical School and an Army veteran of World War II. He was a member of Veterans of Foreign Wars and

Military Order of Foreign Wars.

Dr. Fitzgerald practiced medicine 48 years and was on the staffs of Methodist, St. Francis and Community hospitals. He was a member of the American Academy of Family Physicians.

Max E. Freeman, M.D.

Dr. Freeman, 62, a former Carmel general practitioner, died Aug. 31 at his home in Sun City, Ariz.

He was a 1952 graduate of the Indiana University School of Medicine and an Army-Air Corps veteran of World War II.

Dr. Freeman retired in 1984 after practicing medicine in Carmel 19 years. □

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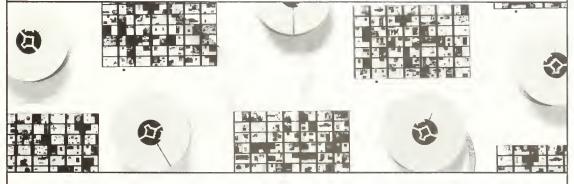
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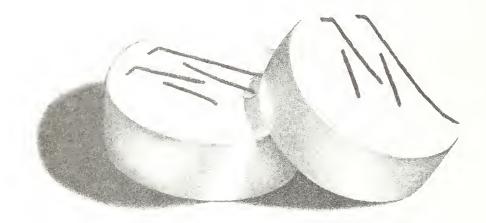
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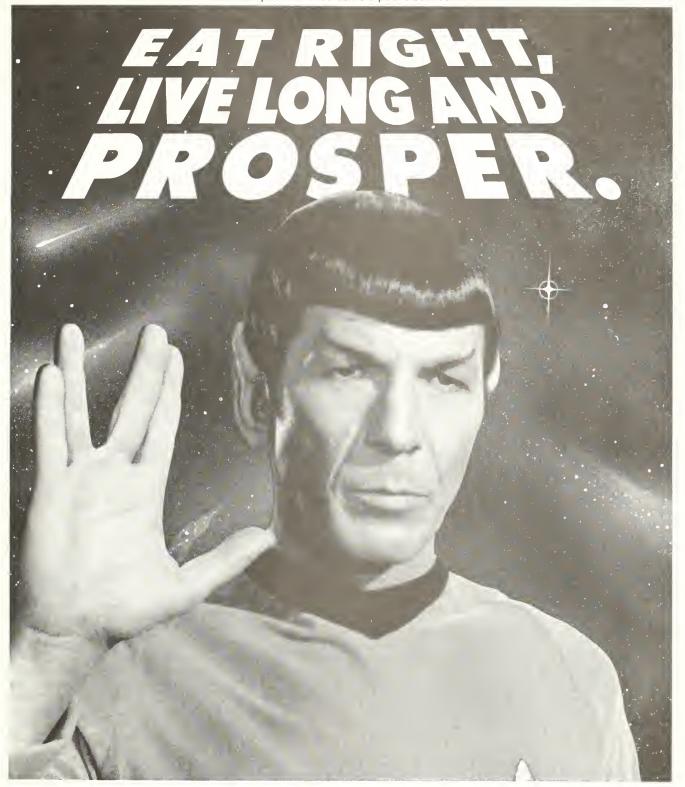
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INDIANA MEDICINE

The Journal of the Indiana State Medical Association

December 1989

Vol. 82, No. 12



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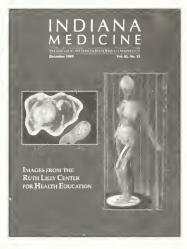
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scientific contributions





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ISMA/IMPAC reception brings physicians, legislators together

Amid a "beach party" atmosphere, ISMA members will have an opportunity to talk with their legislators at the ISMA/IMPAC legislative reception set for Wednesday, Jan. 17. The event will take place from 7 to 10 p.m. in the Mountain Suites of the Hyatt Regency Hotel in downtown Indianapolis. ISMA members are invited to meet their state representatives and senators and discuss legislative issues. A disc jockey will provide music from the 1950s and 1960s. Invitations will be mailed this month. If you do not receive one and are interested in attending, call Susan Grant at the ISMA office, 925-7545 or 1-800-969-7545.

ISMA, older Hoosiers discuss federal, state legislative issues

Representatives from the ISMA and the Indiana Federation of Older Hoosiers met at the ISMA headquarters Nov. 16 to discuss federal and state issues of interest to both groups. Federal legislative issues discussed included home care and catastrophic care. Action taken on three of the resolutions introduced at this year's ISMA convention was explained. These resolutions included supporting state legislation to lower the blood alcohol level so that 0.08% constitutes evidence of intoxication, encouraging ISMA members to provide care for Medicare patients and encouraging the adjustment of Medicaid eligibility criteria to include economically compromised citizens whose incomes fall below the 175% of the established poverty level. The agenda also included information on legislation to restrict the sale of tobacco through vending machines. That legislation is expected to be re-introduced in the 1990 session of the Indiana General Assembly.

ASIM guides offer advice on practice management

The American Society of Internal Medicine recently has revised and updated two of its practice management guides for physicians. "Financial Policies in Practice" and "Computers in Practice" can help physicians make changes that will solve problems instead of creating new ones. "Financial Policies in Practice" helps determine if existing organization, billing and collection methods are practical and effective and offers proven solutions for increasing efficiency. The guide also includes information on financial record keeping and what to look for in a financial adviser. "Computers in Practice" tells how to integrate computers into practice so that automation becomes part of the solution instead of an additional practice management problem. The guide provides information on how to gain acceptance of computers by staff to ensure maximum efficiency. To purchase either of the guides, send \$3 to ASIM Literature Order Dept. NR, 1101 Vermont Ave, N.W., Washington, D.C. 20005. Orders of \$10 or more may be charged to VISA or MasterCard by calling (202) 289-1700.

what's new

AMSERV Medical Products Inc. has introduced Schiller Cardiovit AT-6, a Swiss-made electrocardiograph with modem transmission capability. The unit offers 12 lead simultaneous electrocardiogram (ECG) acquisition in either three- or six-channel presentation. With the addition of AMSERV Medical Products' proprietary modem, the AT-6 can access AMSERV's Data Center for 24-hour computerized ECG analysis or cardiologist overread service. The AT-6, which weighs less than 10 pounds, is portable.

The 1989 Medical Supplies Catalog is now available from Hewlett-Packard. The 192-page catalog features a complete Hewlett-Packard instrument/supplies reference section and is divided into six product categories. It also highlights new products recently introduced, including disposable pregelled neonatal/pediatric leadwire electrodes, a series of disposable temperature probes and a family of electrocardiogram safety cables. The catalog is free to medical professionals. To order, call the Hewlett-Packard Company sales office listed in the telephone directory white pages.

A new video on the causes, symptoms and treatment of diabetes has been produced in cooperation with Marymount Hospital in Cleveland, Ohio. This new video helps the physician explain control measures and the scope of the disease to patients. The video uses a question and answer format and contains visuals developed by medical specialists at Marymount Hospital. It is written and produced so the patient can understand clearly the long-term effects of diabetes.

Midmark Corp. has developed color literature featuring the new Midmark 425 and 427 Air Lift Physician stools. The stools are now available with optional backrest and armrest kits, as frame and seat only or with an optional lab height extension. The literature contains information about construction features, upholstery choices, options and specifications of the stools.

Siemens Medical Systems Inc. has developed the ANGIOSTAR universal imaging system, designed specifically for general angiography, interventional, digital and cardiac procedures. ANGIOSTAR offers a host of recording methods, including digital subtraction angiography, digital radiography, the PUCK CM filmchanger, 35 mm cine and/or SIRCAM 100 mm spotfilm.

The Renal Division of Baxter Healthcare Corp. has launched a comprehensive, multi-media patient eduction program. The program is designed to inform patients about all treatment options with an effective system that has a proven track record. It also will help healthcare professionals meet the increasing demand for patient education materials and the regulatory requirements for complete disclosure and informed consent.

News of what is new in the medical supply industry is composed of abstracts from news releases. Each item published does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Merck Sharp & Dohme Research Laboratories has received approval from the U.S. Food and Drug Administration to market Losec® (Omeprazole MSD) for the treatment of severe erosive esophagitis. The new once-a-day oral medication is used for the short-term treatment of symptomatic gastroesophageal reflux disease in patients who respond poorly to conventional treatment.

Hewlett-Packard has introduced a full family of disposable, pregelled neonatal and pediatric electrodes for use with patient monitors. Each electrode is designed to meet specific monitoring requirements and has a preattached safety leadwire to best meet clinical needs.

The National Library of Medicine's Grateful Med® software is now available for use on any Apple family of Macintosh personal computers. The software was introduced in 1986 for IBMcompatible personal computers as a way for individual health professionals to have immediate, easy and economical access to MED-LINE® and other NLM databases. The average cost of a search via Grateful Med is about \$3. The software is available from the National Technical Information Service.

Abbott Laboratories has received approval from the U.S. Food and Drug Administration to market the first diagnostic test to detect AIDS virus (HIV) antigens. Extensive research published in several medical journals indicates that the HIV antigen test will help physicians in the diagnosis and prognosis of HIV-infected patients.

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Usage in Pregnancy: Pregnancy Category C: Animal reproductive studies have not been conducted with PERCOCET®. It is also not known whether PERCOCET® can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. PERCOCET® should not be given to a pregnant woman unless in the judgment of the physician, the potential benefits outweigh the possible hazards.

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dependence in the neonate.

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born and the mother, especially if higher doses are used

Usage in ambulatory patients: Oxycodone may impair the mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. The patient using PERCOCET® should be cautioned accordingly.

Nursing Mothers: It is not known whether PERCOCET® is excreted in human milk.

Because many drugs are excreted in human milk, caution should be exercised when PERCOCET® is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

Acute abdominal conditions: The administration of PERCOCET® or other narcotics may obscure the diagnosis or clinical course in patients with acute abdominal conditions.

Special risk patients: PERCOCET® should be given with caution to certain patients such as the elderly or debilitated and those with severe impairment of hepatic or renal function, hypothyroidism. Addison's disease, and prostatic hypertrophy or urethral stricture. ADVERSE REACTIONS The most frequently observed adverse reactions include light-headedness, dizziness, sedation, nausea, and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients, and some of these adverse

reactions may be alleviated if the patient lies down.

Other adverse reactions include euphoria, dysphoria, constipation, skin rash and pruritus. At higher doses, oxycodone has most of the disadvantages of morphine including

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DDSAGE AND ADMINISTRATION Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. PERCOCET® is given orally. The usual adult dose is one tablet every 6 hours as needed for pain. PRUG INTERACTIONS Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics or other CNS depression. When such combined therapy is contemplated the dose of one or both agents should be reduced.

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cme calendar

Indiana University

The Indiana University School of Medicine will sponsor the following courses:

Jan. 26-27 – Cochlear Implants in Children, University Place Executive Conference Center and Hotel, Indianapolis.

Feb. 1-3 – Surgical Laser Use:
Basics & Specifics,
Indiana University
Medical Center, Indianapolis.

Feb. 2-3 - Phacoemulsification and IOL Update, University Place Executive Conference Center and Hotel, Indianapolis.

Feb. 16-17 – 22nd Annual Meeting of the Frank Walsh Society, University Place Executive Conference Center and Hotel, Indianapolis.

Feb. 23-24 – Winter Meeting, Indiana Chapter American College of Surgeons, Columbia Club, Indianapolis.

Mar. 8 - Infant Mortality
Teleconference, University Place Executive Conference Center and Hotel in Indianapolis and at statewide Medical
Television Network viewing sites.

Mar. 16 - Current Diagnosis and Management of Epilepsy, University Place Executive Conference Center and Hotel, Indianapolis.

Mar. 23 - Update in Occupational Lung Disease, University Place Executive Conference Center and Hotel, Indianapolis.

Mar. 24-25— Annual Meeting, Indiana Society of Anesthesiologists and Anesthesia Update, University Place Executive Conference Center and Hotel, Indianapolis.

For information, call Melody Dian, assistant director, CME, (317) 274-8353.

University of Michigan

The University of Michigan Medical School will sponsor the following courses:

Jan. 28 – 14th Midwinter Family Practice Update,
Boyne Highlands
Inn, Harbor Springs,
Mich. Course runs
until Feb. 2.

Mar. 5-6 – Epilepsy Advances, Towsley Center, Ann Arbor, Mich.

Mar. 9-10 – 10th Annual Advances in the Management of Infectious Diseases: Update, South Seas Plantation, Captiva Island, Fla.

Mar. 17-24 Facial Cutaneous Surgery: Mohs, Reconstructive, Cosmetic, Copper Mountain Resort, Copper Mountain, Colo.

Mar. 20-24 Family Practice - 1990, 14th Annual

Spring Review Course, Towsley Center, Ann Arbor, Mich.

For more information, contact a program assistant, Office of Continuing Education, G-1100 Towsley Center-Box 0201, University of Michigan Medical School, Ann Arbor, MI 48109-0201, (313) 763-1400.

University of Wisconsin

The University of Wisconsin Medical School, Division of Orthopedic Surgery, and Continuing Medical Education will sponsor "Orthopedics in Primary Care" Feb. 23 and 24 at the Edgewater Hotel in Madison, Wis.

The conference will provide the primary care physician with a review of the diagnosis and management of common injuries and problems of the spine and extremities.

For information, contact Sarah Aslakson, CME, 2715 Marshall Ct., Madison, WI 53705, (608) 263-2856.

University of California

The 11th Annual Mammoth Mountain Emergency Medicine Ski Conference will be March 4 through 9 at Mammoth Lakes, Calif.

The conference, sponsored by the University of California, Irvine, and the Orange County Emergency Department Nurses Association, is approved for 18 hours of Category I CME credit.

For more information, write Medical Conferences, Inc., P. O. Box 52-B, Newport Beach, CA 92662, or call (714) 650-4156.



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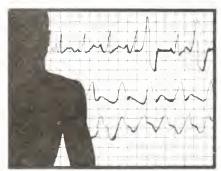


The one you know best.



Status epilepticus:

A diagnostic and therapeutic approach



ADULT CRITICAL CARE MEDICINE

Methodist Hospital OF INDIANA IN Jonathan Sands, M.D. Timothy E. Welty, Pharm. D. Indianapolis

S tatus epilepticus is a frequently encountered problem in critical care and emergency medicine with as many as 160,000 Americans experiencing status epilepticus at least once during their lifetime.¹

The most common form of status epilepticus is the generalized tonic-clonic seizure (grand mal), which continues for at least 30 minutes with the patient not regaining consciousness during this time. In addition to generalized tonic-clonic status epilepticus, there also are non-convulsive forms, including absence (petit mal) status epilepticus, complex partial status epilepticus and continuous partial seizures, where the patient does not lose consciousness (epilepsia partialis continuans).

When confronted with status epilepticus, the physician must take immediate action to diagnose and treat the seizure. This article will review the steps to keep in mind when dealing with this type of patient.

Since permanent neurological damage may occur if seizures are not controlled within 60 minutes, generalized tonic-clonic status epilepticus is considered a medical emergency requiring immediate attention.² In addition, a mor-

tality rate of 10% to 15% may be associated with status epilepticus. The reasons for this poor outcome in untreated patients are multifaceted. Obviously, the actively seizuring patient has a compromised airway that can result in generalized hypoxemia. Added to this is the tremendous circulatory demand that is experienced during tonic-clonic seizures. Thus, from a cardiopulmonary perspective, the burden eventually becomes insupportable, resulting in circulatory collapse. The patient will experience metabolic acidosis and hyperpyrexia due to hypoxia and muscle activity. This creates a systemic environment that predisposes the patient to have more seizures and makes them more difficult to stop.

Besides the systemic effects of status epilepticus, there are profound effects on cerebral metabolism that can lead to permanent neurological damage. With status epilepticus, glucose and oxygen requirements increase greatly, depleting stores of high-energy phosphate compounds essential for cerebral metabolism. Studies in animals have demonstrated permanent ischemic neuronal damage in the hippocampus, amygdala, cerebellum, thalamus and middle cerebral cortical layers after 60 minutes of convulsive status epilepticus.3,4 These changes occurred even in the absence of the systemic metabolic problems associated with continuous seizures. Although these findings have not been well-documented in humans, the risk of significant neurological and systemic harm demands immediate medical intervention.

Diagnosis and non-pharmacologic treatment

When confronted with a patient experiencing status epilepticus, the first intervention is to establish a patent airway for the patient and to maintain adequate cardiovascular support. Cardiac, respiratory and blood pressure monitoring should be started not only due to the physiologic compromise caused by status epilepticus but also because antiepileptic drugs administered intravenously may cause cardiovascular side effects.

Following these basic life support interventions, a physical assessment is essential. This assessment should include a rapid, general neurological examination primarily looking for indications of a head injury or some treatable pathology, both of which mandate a computerized tomogram of the head once seizures are controlled. A fever may indicate an infectious origin for the seizures.

Laboratory work should include serum electrolytes, glucose, calcium, magnesium, phosphate, arterial blood gases, complete blood count and serum anticonvulsant concentrations. A serum and urine toxicology screen is essential and should be collected before administration of medications to control the status epilepticus. If pseudoseizures or feigned seizures are suspected, a prolactin concentration may help because prolactin is significantly elevated for about 60 minutes following a true seizure. A lumbar puncture may help once the

seizures are controlled.

Pharmacotherapeutic interventions – (*Table*)

The initial pharmacologic intervention is to establish intravenous access with an infusion of normal saline. Thiamine 100 mg should be administered intramuscularly, and 50 mL of 50% glucose should be given via intravenous bolus injection. These interventions should manage the primary metabolic disturbances that can cause status epilepticus.

Benzodiazepines remain the mainstay of treating status epilepticus. Traditionally, diazepam has been used in doses of 0.1 to 0.4 mg/kg to treat status epilepticus. This dose should be given intravenously no faster than 2 mg/min and should not exceed a total of 20 mg. An alternate agent that is considered by many to be the drug of choice is lorazepam in doses of 0.05 to 0.1 mg/kg.⁵⁶ Lo-

razepam also should be given intravenously no faster than 2 mg/min. The advantages of lorazepam over diazepam are a longer duration of action and possibly less respiratory depression. Midazolam also has been proposed in the treatment of status epilepticus, but the problem of midazolam-induced respiratory arrest and depression make it an unacceptable agent.⁷

If an intravenous access cannot be obtained, the benzodiazepines can be administered rectally. Diazepam is the most common agent administered rectally and is given in a dose of 0.5 mg/kg.^{8,9} Rectal absorption occurs rapidly, within five to 20 minutes, using the injectable form of diazepam as a microenema. Seizures can be effectively controlled by this administration route, and some caregivers can be trained to administer rectal diazepam at home.

Even though the benzodiazepi-

	Table				
Drug	Loading dose (mg/kg)	Maintenance dose (mg/kg/day)	Serum conc. (mcg/mL)	Time to steady date (days)	
Diazepam (Valium)	0.1 to 0.5	NA	NA	5 to 7	
Lorazepam (Ativan)	0.05 to 0.1	NA	NA	4 to 6	
Phenytoin (Dilantin)	15 to 20	5 to 7 (adults) 6 to 15 (children)	10 to 20	5 to 14	
Phenobarbital	15 to 20	2 to 4 (adults) 3 to 5 (children)	15 to 40	14 to 30	
Pentobarbital (Nembutal)	15 to 30	1 mg/kg/hr infusion	15 to 40	5 to 7	

nes are extremely effective in initially controlling seizures, their activity lasts for only 30 minutes with diazepam and 60 minutes with lorazepam. The reason for the loss of control is that diazepam and lorazepam are rapidly redistributed out of the central nervous system (CNS), meaning that concentrations in the CNS fall below what is necessary for controlling seizures. To deal with this problem, a longer-acting drug needs to be administered immediately.

diac dysrhythmias. For ease of administration, the phenytoin injection can be mixed only in normal saline and infused over 30 to 60 minutes. Once the loading dose has been given, the patient should be placed on a maintenance dose of 5 to 7 mg/kg/day, which can be given as a single daily dose or as two or three divided doses.

In certain patients, phenytoin or benzodiazepines may not produce seizure control. For these cases, phenobarbital is the next drug

Short-acting barbiturates, like pentobarbital, seem to be the most widely accepted backup agents to the first three drugs of choice.

The usual drug of choice is phenytoin. Phenytoin should be administered intravenously with a loading dose of 15 to 20 mg/kg at a rate not to exceed 50 mg/min.10 Intramuscular phenytoin must be avoided due to prolonged absorption over about 30 days and severe pain on injection. This loading dose should produce serum concentrations in the 20 to 25 mcg/mL range, allowing continued control of seizures. If seizure control is not maintained, the serum concentration can be increased to 30 mcg/mL using the following equation: Dose = 0.75(weight in kg) x desired change in concentration.

For a 70 kg patient where a 10 mcg/mL change in serum concentration is desired, a 525 mg dose of phenytoin would produce the concentration goal. While the loading dose is being administered, the patient's blood pressure and cardiac rhythm should be monitored because the propylene glycol in phenytoin injection can cause hypotension and car-

that should be initiated. An important exception to this sequence of drug administration is patients who have seizures due to toxic agents, primarily theophylline, where phenobarbital may be the drug of choice. Phenobarbital should be given in a loading dose of 15 to 20 mg/kg at a rate less than 100 mg/minute.¹¹ This should give serum concentrations in the 20 to 30 mcg/mL range. If seizures are not controlled with this dose, the serum concentrations can be pushed to as high as 100 mcg/mL with few severe adverse reactions other than sedation. Maintenance dosing of phenobarbital should then be established at 2 to 4 mg/kg/day for adults and 3 to 5 mg/kg/day for children. Due to an extremely slow elimination, phenobarbital can be given in one or two divided daily doses.

It is important to measure serum concentrations for both of these agents to avoid toxicities and correlate seizure control to serum concentration. For phenytoin, serum concentrations should be measured at one hour after the end of the loading infusion and three days and seven days after maintenance therapy is established. Dosage adjustments should not be made until after the seven-day concentration is evaluated, unless the patient experiences further seizures and the serum concentrations indicate an increased dose is needed. Serum phenobarbital concentrations should be measured at one hour after the loading dose and seven and 21 days after the start of maintenance dosing. Dosage adjustments are not made until the third to fourth week of phenobarbital maintenance dosing, unless the patient experiences seizures, thus requiring a need to increase the dose.

If status epilepticus is not controlled with benzodiazepines, phenytoin or phenobarbital, various agents may be tried, but few have been documented to be effective. Short-acting barbiturates, like pentobarbital, seem to be the most widely accepted backup agents to the first three drugs of choice.

When pentobarbital is used, the patient is placed into a barbiturate coma until there is electroencephalographic evidence of seizure control. The production of coma requires the patient to be maintained with mechanical ventilation and other forms of life support. This makes pentobarbital therapy extremely complicated and expensive to maintain.

Paraldehyde is another agent that has been widely used for status epilepticus, but withdrawal of the parenteral form of paraldehyde precludes its use. Other drugs, like halothane and lidocaine, have been proposed as alternatives, but there is little literature documentation about their effectiveness in controlling refrac-

tory status epilepticus.1

Conclusion

When promptly and appropriately treated, status epilepticus is generally an easily managed emergency situation in the critical care setting. The physician needs to have a clear understanding of the urgency of treating status epilepticus, a definitive diagnostic plan and a well-developed pharmacotherapeutic plan to provide effective care to these patients.

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partment of Pharmaceutical Support Services, Methodist Hospital of Indiana.

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drug names

Look-alike and sound-alike drug names

OXICONAZOLE

Category: Brand name: Generic name: Dosage forms: Antifungal

Oxistat, Glaxo
Oxiconazole nitrate

Cream

OXANDROLONE

Anabolic steroid Anavar, Searle Oxandrolone Tablets

ETHAMOLIN

Category: Sclerosing agent
Brand name: Ethamolin, Glaxo
Generic name: Ethanolamine oleate
Dosage forms: Injection

ETHINAMATE

Sedative & hypnotic Valmid, Dista Ethinamate Capsules Benjamin Teplitsky, R. Ph. Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions.

Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such lookalike and sound-alike drug names can reduce potential errors.

Radiology Clinic:

Chest mass in an 11-year-old

Frederic E. Vanbastelaer, M.D. Indianapolis

An 11-year-old asthmatic boy receiving the ophylline was seen in the emergency department for the acute onset of epigastric pain that radiated to the back. The pain was dull, constant and exacerbated by walking. There was emesis of clear yellow fluid.

Physical examination revealed an afebrile, normotensive, tachycardiac boy in mild distress. His abdomen was tender to palpation with guarding. Bowel sounds were normoactive, and there was a negative psoas sign. The white blood cell count was 8,000, and a theophylline level was 23 µg/mL. A fungal screen from May 26, 1989, was positive for *Histoplasma capsulatum*. Radiographs of the chest (*Figure*) and abdomen were obtained.

The chest film reveals a 4.5 cm x 3 cm right peritracheal mass without evidence of bone involvement. The lungs are free of infiltrates, and the cardiac silhouette and pulmonary vascularity are unremarkable. The abdominal film was unremarkable.

Histoplasmosis is a worldwide systemic mycosis due to infection with *Histoplasma capsulatum*, a dimorphic fungus that exists in soil with a high nitrogen content, usually derived from the droppings of birds and bats. The disease is hyperendemic in the east-

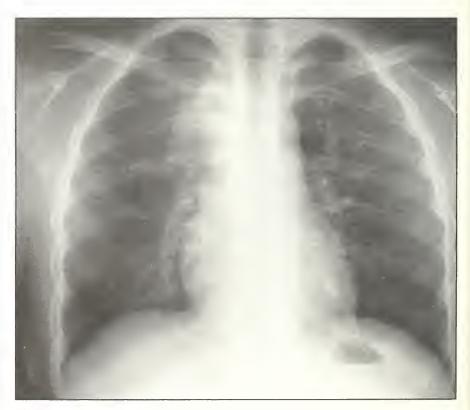
ern and central United States, with a 22% overall incidence of histoplasmin sensitivity in the United States.

Human infection with *Histo-plasma capsulatum* typically results from inhalation of spores into the alveoli of the lung, where they convert to the yeast phase, the form found at body temperature. People of all ages and races may be affected, and the disease is particularly virulent in infants, the

elderly and those with an immune deficiency.

An initial inflammatory reaction is succeeded in one to two weeks by the development of hypersensitivity, granulomatous inflammation, necrosis and fibrosis. In most cases, healing is rapid and progressive. Regional lymph nodes are invariably involved.

Infection is usually asymptomatic, but when symptomatic it may be classified as acute, chronic



Figure

or disseminated. Reinfection is common. The most frequent symptoms are fever, cough and myalgia. Radiographically, the most common findings are pulmonary nodules and/or infiltrates and mediastinal adenopathy.

A definitive diagnosis of histoplasmosis can be made only by demonstrating the presence of *Histoplasma capsulatum* in tissue specimens or secretions, either by culture or histopathology. Since the isolation of the organism from clinical specimens may take weeks, serologic tests are important in arriving at an early diagnosis of histoplasmosis and provide the basis for diagnosis in more than 75% of cases.

Seropositivity provides good evidence for infection with *Histo-plasma capsulatum*, and it can be demonstrated in more than 90% of patients with symptomatic, self-limited and cavitating histoplasmosis and in a somewhat lower proportion of those with asymptomatic or disseminated infection.

The most commonly available test is complement fixation that detects antibodies to the yeast phase of mycelial phase antigens. A single serum complement fixation reaction of 1:32 or greater, or a four-fold or greater rise in titer during illness, is highly suggestive of illness.

Precipitated antibodies to *Histo*plasma capsulatum may be demonstrated by immunodiffusion or counterimmunoelectrophoresis. The sensitivity of these two tests is less than that of complement fixation, but they are more easily performed in hospital laboratories.

More sensitive but less specific tests for *Histoplasma capsulatum* include radioimmunoassay and enzyme immunoassay. These are most useful as screening tests and require a confirmatory test. Histoplasmin skin tests are rarely helpful.

Most acute infections in normal hosts are benign and self-limited and do not require specific treatment. Antifungal treatment is reserved for more severe forms and generally consists of a one- to four-week course of amphotericin B (0.3 to 0.5 mg/kg/day). Keto-conazole (400 mg/day for three to six months) is an alternative form of treatment.

The author is a radiology resident at the Indiana University Medical Center in Indianapolis.

Section editor: Robert D. Tarver, M.D., Director of Chest Imaging, Wishard Memorial Hospital, Indianapolis.

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November CME quiz answers

The following letters are the answers to the CME quiz that appeared in the November 1989 issue: "Neurological complications of infective endocarditis."

- 1. c 6. b 2. b 7. d
- 3. d 8. d
- 4. d 9. b
- 5. a 10. d

Physician Placement Service

Physicians or residents seeking practice opportunities may list their curriculum vitaes with the Physician Placement Service at no charge.

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Paper clip stab wounds: Four case reports

RoseMarie Lopez, M.D. Mary C. McCarthy, M.D. Indianapolis

ase 1 is a 25-year-old male prisoner attempting to obtain a medical release from prison. He was examined in the emergency department following insertion of a paper clip into his mid-abdomen. Physical examination was benign. Local exploration of the abdominal wall revealed a paper clip in the pre-peritoneal space with intact peritoneum. The paper clip was extracted, the wound extension was closed primarily, and the wound was left open. The patient was returned to prison that day.

Case 2 is a 21-year-old man with a history of ethanol and intravenous drug abuse, depression and hallucinations. He was seen in the emergency department. "Voices" told him to stab a paper clip into his abdomen. His vital signs were stable, and he was afebrile. His white blood count was normal. Physical examination was remarkable for a pinhole puncture to the right of the umbilicus. There was no ecchymosis or tenderness. A metallic foreign body in the abdominal wall was present on abdominal

The wound was explored in the emergency department, and the paper clip was removed. There was peritoneal penetration by the

Abstract

Four prisoners recently evaluated at a county hospital sustained self-inflicted paper clip stab wounds of the abdomen on 22 occasions. Guidelines for management based on physical examination, abdominal films and wound exploration with paper clip extraction and short-term admission for observation have been successful in avoiding laparotomy in most instances.

Evaluation and surgical treatment of penetrating abdominal injuries are controversial. Some authors propose mandatory laparotomy for all stab wounds violating the peritoneum, while others recommend selective management based on physical findings, local exploration of the wound and subsequent peritoneal lavage.

Recently, four prisoners have inserted sharpened paper clips into and through the abdominal wall on 22 occasions, raising questions about the appropriate treatment of these injuries. These wounds differ from other stab wounds in several respects: 1) underlying psychiatric disturbances and the self-inflicted nature of the wound increase the difficulty of patient management; 2) attempts are often multiple, precluding repeated peritoneal lavage for evaluation; 3) the foreign body may be completely intraperitoneal; and 4) peritoneal penetration is similar to that incurred during a peritoneal tap with an 18-gauge needle. The differing presentations of these patients are reported, and a plan for management of these injuries is proposed.

paper clip. He was admitted for 24 hours of observation. He did not develop any peritoneal signs or fever and, therefore, was transferred to the psychiatry service.

Case 3 is a 28-year-old prisoner who was trying to escape a threatening situation in prison. He was seen in the emergency department following his sixth attempt at paper clip insertion into his abdominal wall. Five times previously, the foreign objects were localized to the abdominal wall and were removed under fluoro-

scopic guidance. On this occasion, the patient had right lower quadrant tenderness with a 1.5 cm entrance wound.

The plain film of the abdomen showed two foreign objects, one in the abdominal wall and one free in the peritoneal cavity (*Figure 1*). Because of the intraperitoneal foreign body and his physical findings, the patient underwent laparotomy. A paper clip near the right colon mesentery was removed. No evidence of bowel perforation or vascular

injury was found. The postoperative course was uneventful, and the patient was released three days later.

Case 4 is a 29-year-old man with a history of chronic paranoid schizophrenia. He had 14 prior admissions to the hospital for self-inflicted penetrating abdominal trauma. A recent injury required laparotomy for extraction of an intra-abdominal paper clip. One month postoperatively, he inserted a paper clip through the midline incision.

The patient was otherwise asymptomatic with a stable hemoglobin and white blood count. He underwent laparotomy and closure of a small intestinal perforation in a segment of bowel adherent to the previous incision. He developed a postoperative wound infection and dehiscence. After repair of this, he developed an enterocutaneous fistula, which failed to heal on parenteral nutrition and required subsequent bowel resection for closure. He recovered and was transferred to the psychiatry service.

Discussion

Evaluation and treatment of self-inflicted paper clip wounds of the abdomen require a plan for treatment that considers the low probability of intraperitoneal injury in these wounds.^{1,2} A paper clip approximates the size of an 18-gauge needle, as used in abdominal paracentesis. The complication rate of abdominal paracentesis was 1% in a recent review of 10,358 patients undergoing diagnostic tap for blunt abdominal trauma or ascites, with only one intestinal perforation reported.³ This was treated conservatively without sequelae.

Several recent series have reported catheter paracentesis that occasionally entered the intestine without complications.^{4,5} Most authors believe associated bowel injuries were rare because most small bowel loops are pushed away from the point of the needle. Presumably, if such perforations did occur, they sealed spontaneously. A study in which deliberate needle puncture of the bowel was performed showed no leakage until an intraluminal pressure of 250 mmHg was recorded.⁶ Normal intraluminal pressure in the small bowel is 15 mmHg and in the large bowel is 20 mmHg. Unless a distal obstruction is present, elevating proximal intestinal pressure, inadvertent colon or small bowel perforations incurred during paper clip penetration should seal spontaneously.

These four prisoners were attempting to escape threatening situations in prison and knew that penetrating abdominal trauma would result in at least short-term hospital admissions. They reflect the spectrum of injury that may be present in self-inflicted paper clip stab wound patients. The patient in case 1, in which there was no peritoneal violation, was returned promptly to prison, thus, reducing the likelihood of another attempt. Case 2, in which the patient had peritoneal violation but no abdominal findings, was managed conservatively. Case 3, in which the patient had a free intraperitoneal foreign body, was managed operatively due to the greater potential for intra-abdominal injury. Case 4, a complicated schizophrenic patient who had undergone multiple procedures, demonstrated the difficulty of managing these patients and the potential for serious sequelae. If the foreign body can be removed without laparotomy, observation alone is the best course of management.

To provide optimal care of these patients, a simple schema for treatment is proposed in *Figure 2*. Initial physical examination, laboratory data and plain films assess the likelihood for serious intra-abdominal in-



Figure 1: Abdominal film showing two foreign bodies in case 3.

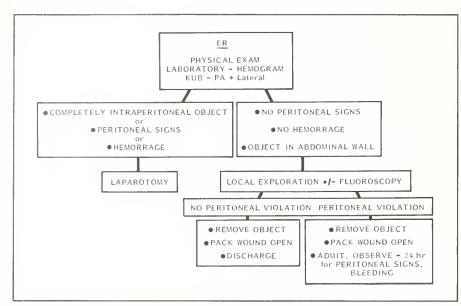


Figure 2: Algorithm for treatment in paper clip stab wounds of the abdomen.

jury and the need for laparotomy. In the absence of peritoneal signs or bleeding, local wound exploration and paper clip removal are performed.

If there is peritoneal violation, the patient should be observed for 24 hours; otherwise he may be discharged. Peritoneal lavage is not performed. Intra-abdominal foreign bodies also may require removal.

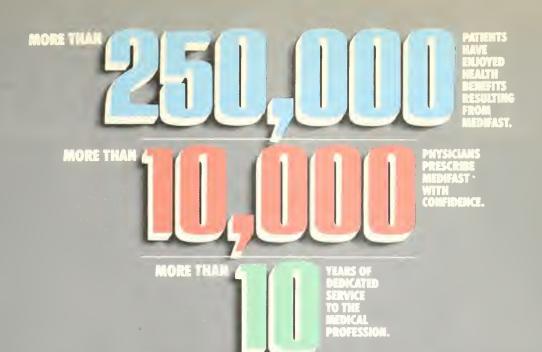
Laparotomy for closure of minor intestinal perforations, even when these are likely, such as in penetration of recent laparotomy scars, is unrewarding and may result in increased morbidity.

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Antibiotic prophylaxis for dental patients with prosthetic joints

Jack E. Schaaf, D.D.S, M.S.D. Karen Masbaum Yoder, L.D.H., M.S.D.

The number of individuals receiving prosthetic joint implants is steadily increasing. In 1986, 117,000 total hip arthroplasties and 91,000 total knee arthroplasties were performed.\(^1\) These numbers do not reflect figures for other prostheses such as fingers, elbows and shoulders. As more individuals receive artificial joints, it becomes most likely that every dental practice will have one or more of these patients seeking dental care.

One of the major challenges to the successful retention of these endoprostheses is infection. The organisms responsible for some of these septic joint complications may originate from sites other than the implant and spread to the joint via the bloodstream. Because dental and other oral sources of these joint infections have been postulated, it is important for the dental professional to identify the patient with an artificial joint and understand the principles involved with these potential infections. This allows the prosthesis patient to be protected during periods of bacteremia in-

Abstract

Because of the threat of hematogenous spread of infection arising from invasive dental procedures, preoperative antibiotic prophylaxis should be considered for patients who are endoprostheses recipients. No universally accepted protocol exists to guide practitioners in determining indications or treatment methods for such patients. To ascertain their recommendations, 264 Indiana orthopaedic surgeons were surveyed and 121, 46%, responded. A high percentage of respondents always or usually recommend preoperative antibiotic prophylaxis for oral surgery, extraction and in the case of acute dental infection for hip arthroplasty patients. A slightly lesser percentage of respondents would premedicate for dental restorations for patients with lesser joint arthroplasties.

Eighty-four percent of the respondents chose oral cephalosporin as the preferred antibiotic, but the recommended dosage and duration varied. In the absence of universally accepted protocol, it is recommended that dentists contact their patient's surgeon to determine what the most appropriate measures are for that particular person.

duced by dental treatment or infection.

This article will review the indications for prosthesis placement, the types of joints that can be implanted, the organisms associated with joint infections and the recommendations for antibiotic premedication that were determined from a survey of the orthopaedic surgeons of Indiana.

Prosthetic joints: Indications, types and reasons for failure There are several indications for the placement of prosthetic joints. Most frequently, degenerative joint disease has caused extensive joint destruction, and the entire articulation must be replaced when daily activities, including sleep, become difficult and conservative therapy fails to control the pain and dysfunction. Other less frequent reasons for joint replacement include rheumatoid arthritis, hemophilia,² necrosis of the femur head, non-union of fractures and severe trauma. Total hip and knee joints, as well as shoulder,

elbow, wrist and metacarpophalangeal prostheses, can be implanted in selected patients.³

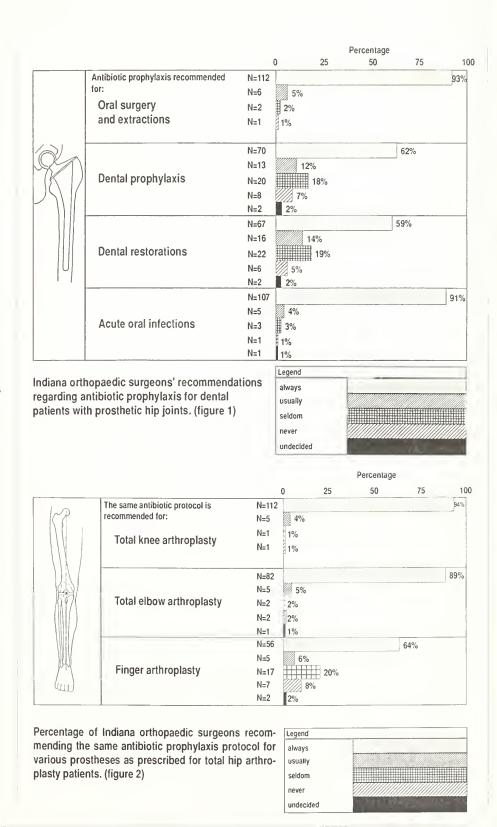
Prosthetic joint failure is a major concern for both the physician and the patient, and one of the major reasons for this failure is infection. Along with the debilitation and pain associated with the infected joint, the patient must contend with long-term hospitalization, additional surgical procedures with attendant risk and significant financial loss. Costs may range from \$10,000 to more than \$40,000. Frequently the joint cannot be replaced, and the patient develops a pseudoarthrosis.4 Severe infection carries an 18% mortality rate.5

Joint sepsis is classified chronologically into early and late phases or types. Early joint infections occur within six months of the arthroplasty, while late infections occur after this period. The proposed causes of these infections include contamination of the prosthesis or wound at the time of surgery, hematogenous migration of organisms to the site of the implant from distant infections, and transient bacteremias resulting from surgical procedures or trauma in the oral or genitourinary areas.3

nary areas.³

All efforts are made to prevent infections of the surgical site at the time of the arthroplasty. Techniques such as sterile operating procedures, prophylactic antibiotics,⁴ clean air enclosures and antibiotic-containing bone cements³ are frequently used.

Although multiple organisms have been associated with late prosthesis infection resulting from surgical site or hematogenous contamination, Gram positive Staphylococcus aureus and Staphylococcus epidermis have most com-



monly been isolated. Others include alpha streptococci and beta streptococci, *Pseudomonas aeruginosa*, enterobacteria, *Escherichia coli*, Peptostreptococci and *Candida albicaus*. These findings indicate that prosthesis infection can be caused by Gram positive and negative organisms and by aerobic and anaerobic bacteria as well as fungi.

While a direct relationship between oral infection or dental treatment and deep, late joint sepsis has been difficult to document in most cases, it has been estimated that between .04% to .05%^{7,10} of these late infections have been associated with dental infections or treatment. It is known, however, that certain dental treatments will induce a transient bacteremia, lasting about 15 minutes after the procedure,11 which could represent a source of hematogenous bacteria that might contaminate the implant. Many of the previously implicated organisms have been isolated from the oral cavity.

The effects of bacterial seeding of the bloodstream have been most studied as they relate to the cardiovascular system. Although a similar amount of research has

not been conducted to determine the risk to arthroplasty patients during periods of bacteremia, a certain amount of the cardiac implications can be related to the artificial joint. One logical comparison has been proposed by Ritter and Carlson,4 who thought that a prosthetic joint was not unlike an artificial heart valve, which has a known susceptibility to endocarditis in the presence of bloodstream bacteria. These authors reviewed the significance of anachoresis, which is the ability of hematogenous organism to collect in an area of previous injury.

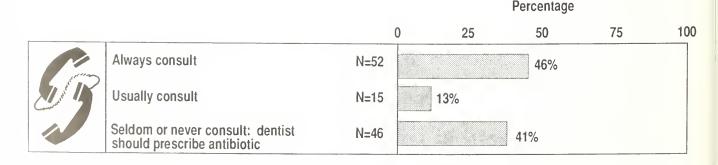
Certain dental procedures, which frequently result in the laceration of blood vessels, have been associated with the occurrence of bacteremia. These treatments include dental scaling and prophylaxis; extractions and periodontal surgery; biopsy, incision and drainage; use of rubber dam clamps; endodontic procedures; extensive restorative procedures, especially those requiring subgingival margins or impressions; and the delivery of fixed appliances.¹² Additionally, denture ulcers¹¹ and oral trauma may result in bacteremia. Poor oral hygiene, periodontal infections

and periapical abscesses may result in a more chronic but still significant bacterial seeding of the bloodstream.¹¹

Some dental treatments have not been associated with bacteremia induction. Dental examinations (without periodontal probing), radiographs, oral hygiene instruction, restorative procedures (without the rubber dam), vitality testing and the insertion of removable space maintainers and orthodontic appliances generally do not permit the ingress of organisms unless the gingival tissues are extremely hyperplastic or inflamed.¹²

Identification of dental patients with prosthetic joints

Ideally, arthroplasty patients should be made aware of the need to inform dental personnel of their prosthesis. As reported later in this paper, approximately one-fourth of the orthopaedic surgeons who responded provide their patients with written information regarding the necessity for antibiotic prophylaxis before invasive procedures. A higher percentage reported informing their patients orally. But, when these warnings are combined with the



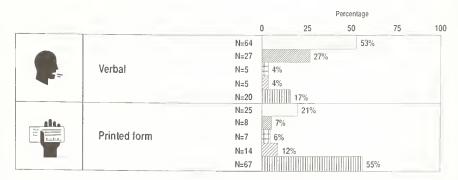
Recommendations concerning advisability of consultation between dentist and orthopaedic surgeon prior to dental treatment of arthroplasty patients. (figure 3)

other numerous instructions necessary after such surgery, it is unlikely that many patients will retain the information. It is more likely that very few patients who have prosthetic joints understand the importance of informing dental personnel. Awareness of the possible connection between their hip prosthesis and their tooth is often remote.

Clinical observation alone is certainly not a reliable means of identifying arthroplasty patients. There is no characteristic gait nor do they necessarily use a cane or other walking assistance. Attempting to orally quiz each patient may become inconsistent and easily overlooked when dental personnel are hurried.

In order to consistently identify joint prosthesis patients in the dental office, a direct question should be included on the written health history: DO YOU HAVE ANY ARTIFICIAL JOINTS? This question, as other health questions, should be followed by the words "Yes" and "No." The patient should be directed to circle the appropriate response. Without a marked response to each item, it cannot be ascertained that the item has even been read. Phrasing the question, "Do you have any prosthesis?" could easily be misinterpreted to mean heart or even dental devices. After adding the question regarding artificial joints to the health history, it would be of interest to note how many previously unidentified arthroplasty patients emerge.

Periodically, before treatment, patients should either be asked to complete a new health history or should be handed the form they previously completed with the request to review the record and



Methods used by Indiana orthopaedic surgeons to inform their arthroplasty patients about recommendations for antibiotic prophylaxis prior to invasive procedures. (figure 4)

Legend	
always	
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seldom	
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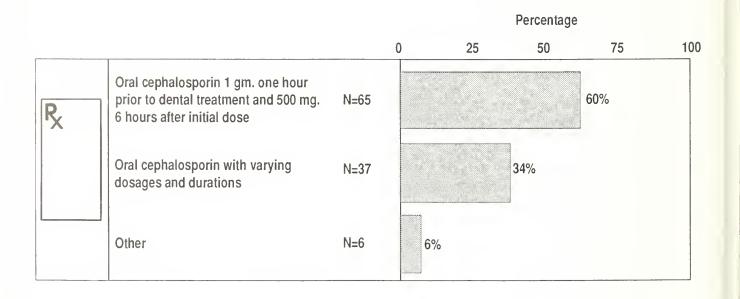
make appropriate revisions. It is unlikely that patients will remember, without seeing their health history, what information they reported at their previous visits. Each review and revision of the health history should be documented in the patient's record.

Recommendations for patient protection

Recommendations for the prevention of hematogenous spread of infection in arthroplasty patients have been fragmented and left to the discretion of the individual practitioner treating the patient. Previously, there has been no unified policy based on the recommendations of an authoritative body. Soon, however, the Journal of the American Dental Association will publish the consensus report from the Council on Dental Therapeutics' Workshop on Antibiotic Prophylaxis for Patients with Prosthetic Joints. This workshop, which was held Nov. 12, 1987, in Chicago, involved orthopaedic surgeons, oral surgeons, specialists in infectious

diseases and other dentists with expertise in this subject. Their report will outline indications for antibiotic prophylaxis of athroplasty patients, recommend the drugs of choice and suggest alternatives for those with allergies to the preferred antibiotic. It is uncertain whether their recommendations will carry the endorsement of the American Orthopaedic Association.

A survey of Indiana orthopaedic surgeons was undertaken to gather information on the protocols currently being followed by them for arthroplasty patients in Indiana. To solicit this information, 264 questionnaires were mailed in January 1988 to specialists identified by the Indiana State Medical Association as orthopaedic surgeons. The questionnaire asked to what extent antibiotic prophylaxis was advised for arthroplasty patients undergoing various procedures such as oral surgery, dental prophylaxis, dental restorations or when experiencing acute oral infection. Surgeons were asked to indicate



Antibiotic prophylaxis regimen recommended by Indiana orthopaedic surgeons when indicated for dental patients with prosthetic joints. (figure 5)

whether they always, usually, seldom or never prescribe antibiotics for those procedures.

One hundred twenty-one surveys (46%) were completed and returned within two weeks. The results indicated agreement among the orthopaedic surgeons regarding the necessity of antibiotic prophylaxis for various procedures involving hip prosthesis patients (Figure 1). Ninety-three percent indicated they always premedicate, and 5% indicated they usually premedicate for oral surgery or extractions when hip prosthesis patients are involved. Only one respondent believed that premedication was never necessarv. A lesser percentage endorsed routine antibiotics for dental prophylaxis: 62% would always premedicate, while 12% would usually premedicate for this procedure. Fifty-nine percent would always prescribe antibiotics

for dental restorations while 91% always prescribe antibiotics for hip arthroplasty patients with acute oral infections.

When asked if they would recommend the same protocol for knee, elbow or finger arthroplasty patients receiving dental treatment, 94% said they would prescribe according to the same criteria for knee arthroplasty patients; 89% would follow the same protocol for elbow arthroplasty patients and 64% would do likewise for finger arthroplasty patients (*Figure* 2).

The orthopaedic surgeons were asked if they believed that dentists should consult with them before treating arthroplasty patients (*Figure 3*). Forty-six percent preferred that the dentist always consult before treatment. Thirteen percent indicated that consulting should usually be done, but 41% of the respondents who indicated

that they always premedicate for invasive procedures replied that consultation is seldom or never necessary; the dentist should simply prescribe the antibiotic for the patient when indicated.

When asked what methods were used to alert their patients to recommendations on antibiotic prophylaxis, 53% replied that they always inform the patient orally. Twenty-one percent always provide information in printed form (Figure 4). Several respondents included a copy of the printed information or wallet size cards that they provide for their patients.

The survey form listed two options for the choice of antibiotic to use when premedication is indicated: 1) oral cephalosporin 1 gm one hour before treatment and 500 mg six hours after the initial dose. This protocol was specifically placed on the questionnaire be-

cause similar guidelines were previously recommended by a survey of orthopaedic residency programs;13 2) Other. Respondents were directed to write their prescription recommendations. Sixty percent indicated a preference for the listed regimen, option one. Thirty-four percent concurred with the choice of oral cephalosporin but preferred increasing the number of doses and length of administration by varying degrees. Six percent of the respondents recommended antibiotics other than oral cephalosporin, usually penicillin VK (Figure 5).

Summary

Total arthroplasty has become a frequently performed surgical procedure. Hematogenous spread of infection arising from distant sites such as the oral cavity is a threat to the retention of the prosthetic joint. However, a specific protocol for antibiotic prophylaxis has not been systematically researched and recommended. To ascertain what precautions are being recommended, a questionnaire was mailed to 264 Indiana orthopaedic surgeons; 121 (46%) responded.

For total hip arthroplasty patients, 98% of the respondents always or usually recommended antibiotic prophylaxis for oral surgery or extractions; 74% always or usually premedicate for dental prophylaxis; 73% always or usually premedicate for dental restorations; and 95% always or usually premedicate in the case of acute oral infections. A high percentage follow the same protocol for lesser joint arthroplasties as for total hip replacements.

Fifty-nine percent preferred that dentists always or usually consult with them before treating arthroplasty patients and 41% indicated that the dentist should directly prescribe the antibiotic when appropriate. Eight percent always or usually orally inform their patients of their recommendations for premedication before invasive procedures, while 28% provide that information in printed form.

Eight-four percent of the respondents chose oral cephalosporin as the preferred antibiotic, but the recommended dosage and duration varied. Sixty percent preferred oral cephalosporin 1 gm one hour before treatment and 500 mg six hours after the initial dose.

This survey has revealed that, at this time, there are no specific guidelines for patient education or protection after arthroplastic surgery. Although it appears that a majority of the orthopaedic surgeons are issuing the proper warnings to their patients about the possible consequences of dental treatment without antibiotic premedication, we cannot always rely on the patient to remember or volunteer this information. Therefore, it is imperative that the medical history form used by the dentist include the specific question: DO YOU HAVE ANY AR-TIFICIAL JOINTS? This survey also disclosed that most surgeons recommend an oral cephalosporin before dental treatment that is likely to induce a bacteremia. While a majority of those responding thought that 1 gm one hour before the procedure and 500 mg six hours later would provide sufficient protection, many chose a different protocol of administration. Until more specific guidelines are issued by the dental and orthopaedic associations, it would seem most prudent for the dentist

to contact the patient's surgeon to determine what type and dosage of antibiotic would be best for the patient.

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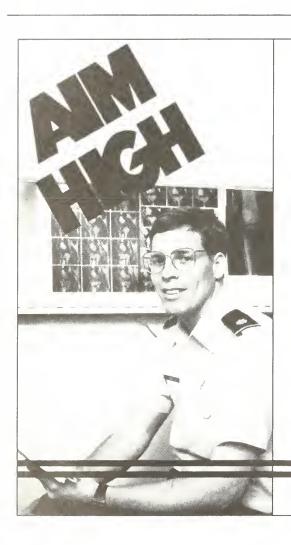
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Fresh frozen plasma: Past, present and future

Leo J. McCarthy, M.D. Indianapolis

Fresh frozen plasma (FFP) is perhaps the least sophisticated of all blood components. Apparently, this accounts for its tremendous overtransfusion.

The few published studies reveal that most FFP, more than 90% in some, has been transfused for volume expansion and/or replacement, not accepted indications.\(^1\) Nationally, approximately 180,000 units were transfused in 1971, 1.5 million units in 1980 and approximately 1.5 million units during 1985, 1986 and 1987. With this steady usage, the annual cost of transfusing fresh frozen plasma in this country is about \$75,000,000.

The Central Indiana Regional Blood Center dispensed approximately 8,300 units in 1980, 21,000 units in 1985, 24,000 units in 1987 and nearly 24,000 units in 1988. Because of increasing concern for recipient safety, costs and preserving this component, a multidisciplinary Consensus Conference of the National Institutes of Health (NIH) delineated its indications and contraindications.²

In spite of the Consensus Conference's widely published indications, unfortunately, there has been no decreased transfusion of FFP in central Indiana or in the nation. Therefore, this information needs to be re-emphasized,

Abstract

Fresh frozen plasma has been transfused for decades. However, the dramatic increase in its use has caused concern that much of it is transfused without the proper indications. Because of this, the National Institutes of Health held a Consensus Conference to clarify its genuine indications and contraindications.

particularly because of the public's heightened concern about transfusions during the AIDS epidemic.

Fresh frozen plasma is removed from a unit of whole blood anticoagulated with 1.66 g sodium citrate. The plasma must be removed from the blood within six hours after collection and then frozen at -18° C or colder. It may be stored for one year at that temperature. It should be thawed in a 37° C circulating water bath. Microwave ovens occasionally have been used to hasten thawing, but it is an unacceptable practice and violates the American Association of Blood Banks standards because of the inconsistent and uneven energy delivered by these ovens.

The volume indicated is usually 5 to 20 mL/kg of patient weight with an infusion rate of about one unit within one to four hours. One mL of FFP contains approximately one unit of each coagulation factor activity (i.e., 200 mL contains approximately 200 mg/dL of fibrinogen). The current cost of a unit in central Indiana is approximately \$50.

History

The problem of blood's inevitable coagulation was solved in 1916 by Peyton Rous, who subsequently received the Nobel Prize for his work in carcinogenesis and discovered the retroviruses, and Turner, who developed an anticoagulant using 200 cc of 3.8% citrate solution and 500 cc of 5.4% glucose solution, added to 300 cc of whole blood. This citrate-glucose solution was widely used.

Jordan from Barcelona drew nearly 4,500 donors in the first full-scale application of the citrate-glucose anticoagulant in 1936 during the Spanish Civil War, and Filalov drew about 1,500 donors in Leningrad in 1933. In 1940, Minot and Blalock believed plasma was the treatment of choice to restore volume and recommended the establishment of wide-scale plasma banks.³

P.L. Mollison, M.D., a lieutenant in the British Army Medical Corps, and Loutit modified the Rous-Turner solution while attempting to avoid caramelization caused by autoclaving. They added 100 cc of 2% citrate and 10 cc of 3% glucose to 430 cc of

whole blood and found this acidcitrate-dextrose (ACD) solution not only improved red cell preservation but also markedly lowered the concentration of citrate in the blood. This ACD solution became the worldwide anticoagulant for nearly two decades.

The introduction of sodium citrate as an anticoagulant allowed the citrated components to be sedimented in supernatant plasma and retained for transfusion later. Phillip Wangensteen, M.D., a professor of surgery at the University of Minnesota, had transfused bovine plasma to humans. However, there were many reactions, particularly serum sickness after transfusion. Because of this, Dr. Edwin J. Cohn, professor of physical chemistry at Harvard Medical School, was asked by the National Research Council to modify bovine plasma for human usage. His multidisciplinary team of chemists, scientists, physicians and public health professionals developed a system for separating the plasma proteins into six various subfractions containing among other constituents, albumin, fibrinogen and antihemophilia factor (VIII).

This system, which is still widely used today with modifications, depended on controlling five variables that influenced the solubility of proteins: pH, ionic strength, alcohol (ethanol) concentration, protein concentration and temperature. Because Dr. Cohn believed it would be difficult to use animal proteins, he fractioned human plasma by the same method used for animals and produced human albumin, with physiologic and chemical properties similar to that of bovine albumin but, of course, immunologically different and, therefore,

much more compatible.

The transfusion of human albumin was not followed by the delayed reaction experienced with bovine preparations. Immediately after the bombing of Pearl Harbor in 1941, all the recently produced human serum albumin, about a dozen bottles, was taken to Hawaii by I.F. Ravdin, M.D., a professor of surgery at the University of Pennsylvania and a member of the National Research Council's Committee on Blood and Blood Derivatives. He administered this new product to a few wounded and burned patients and was impressed by its effectiveness as a safe treatment for shock.

Bolstered by clinical trials and Dr. Ravdin's dramatic personal experience, the National Research Council recommended that 100 mL of a 25% human serum albumin was roughly equivalent in osmotic effect to the standard 500 mL infusion of human plasma reconstituted from frozen or dried states. Dr. Cohn formally presented his method to the American College of Physicians in 1946 and published it in 1947.4

Thus, in 1948, several blood alternatives other than plasma were available. At about the same time, Kenneth Brinkhaus, M.D., a renowned coagulationist at the University of Iowa, recommended the establishment of plasma banks. For reasons not entirely clear, fractionated plasma products did not gain much popularity. However, the transfusion of FFP, rather than any of its constituents, gained tremendous popularity throughout the following four decades, resulting in today's overtransfusion.

Indications

The indications delineated by

the Consensus Conference are the following:

Coagulation deficiencies – Single coagulation deficiencies, such as factor VIII and factor IX, should be treated with these readily available derivatives. Combined factor deficiencies, most often seen in advanced liver disease, may be treated with FFP.

Reversal of the commarin (warfarin) anticoagulant – This anticoagulant has a relatively long half-life, approximately two and one-half days, and achieves its effect by decreasing hepatic synthesis of the vitamin K factors (II, VII, IX and X) by preventing its oxidation. One vial of vitamin K usually corrects a prolonged prothrombin time within six to 12 hours. However, if more rapid correction is required, FFP should be transfused.

Thrombotic thrombocytopenic purpura (TTP) – Exchanging large volumes of the patient's plasma with FFP has dramatically reduced its mortality from nearly 90% to approximately 50%. Although it is unclear whether one is removing deleterious substance(s) from the patient's plasma and/or replacing a factor that is deficient in the patient's plasma by infusion of large volumes of FFP, this therapy is now empiric. This is, perhaps, its clearest indication.

Immunodeficiency syndrome – Although FFP provides various immunoglobulins, it is now standard practice to treat both the primary and secondary syndromes with the purified immune serum globulins because of convenience and recipient safety.

Severe liver disease – All clotting factors are synthesized in the liver except factor VIII and von Willebrand's factor. Severe liver

disease commonly leads to decreased synthesis of factors I, II, V, VII, IX and X. Patients with severe liver disease should not be given FFP unless they are actively bleeding or facing an imminent invasive procedure, biopsy or surgery.

Antithrombin III deficiency – Fresh frozen plasma provides limited amounts of this natural inhibitor. However, concentrates are now available, at least on a limited scale. Significant amounts of antithrombin III also are pres-

ent in "outdated" plasma.

Massive transfusion - Most bleeding in massive transfusion (one blood volume within 24 hours) is due to dilutional thrombocytopenia rather than decreased amounts of procoagulants. Therefore, transfusion of FFP without a documented coagulation defect is not condoned. The dilution of coagulation factors is poorly predictable, but massive transfusion, by itself, rarely results in significantly reduced factor levels to cause clinical bleeding. There is no evidence that prophylactic transfusion of FFP will decrease subsequent transfusion requirements. Therefore, this is not an indication.

The contraindications of the Consensus Conference are perhaps more important and are as follows:

Blood volume expansion – Because of safer, more effective and less expensive options, FFP should not be used for volume expansion.

Severe liver disease without active bleeding – Severe liver disease without active bleeding, surgery or biopsy remains a steadfast contraindication.

Prophylaxis of bleeding during surgery or postoperatively

Nutritional source – Fresh frozen plasma should never be used as a

Table

Fresh frozen plasma usage at Indiana University Medical Center 1983 to 1988

Year	I.U. Hospital	Wishard Hospital	VA Hospital	Total
1983	2,957	1,304	1,142	5,403
1984	3,205	1,147	1,230	5,582
1985	4,238	1,318	1,369	6,925
1986	5,225	1,521	1,492	8,238
1987	4,757	1,336	1,464	7,557
1988	4,643	1,150	1,348	7,141
Total	25,025	7,776	8,045	40,846

nutritional source because of its negligible nutritional value.

Risks

The risks of FFP transfusion often are overlooked but include an increased intravascular volume and disease transmission, especially viral illnesses. Approximately 5% to 10% of recipients may develop non-A, non-B hepatitis.

Although all blood/plasma is tested for HIV, the risk of acquiring HIV from a product that has tested negative for the HIV antibody (referred to as the biologic window) has been estimated at 5 units in 1,000,000 (1/250,000). In a low incidence state, such as Indiana, the risk is probably even less. Although this risk is real, it is quite small. Only seven cases of such units in the biologic window have occurred in 70 million units of blood/blood components transfused.⁵

Anaphylactoid reactions and alloimmunization also are genuine but are seldom considered risks.

Conclusion

Fresh frozen plasma has remained a pillar of transfusion therapy for decades. However, we hope the recognition of other safer and more effective options will

stimulate the selection of other components and result in a decrease in its transfusion.

Today, few true indications exist for fresh frozen plasma being transfused. The *Table* shows an approximate 10% decrease in usage between 1986 and 1987 at the Indiana University Medical Center. We hope this trend will not only continue but spread.

Correspondence and reprints: Leo J. McCarthy, M.D., Department of Pathology, University Hospital N440, 926 W. Michigan St., Indianapolis, IN 46202-5283.

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Dosage and Administration: Experimental dosage reported in treatment of erectile impotence 1,3,4 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to $\frac{1}{2}$ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.

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References:

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Ruth Lilly Center opens_

Tina Sims Managing editor

Drugs cause brain activity to slow. Household cleaning supplies contain poisonous ingredients. A well-balanced diet can prevent health problems.

These and other messages are being given to children at the new \$4 million Ruth Lilly Center for Health Education in Indianapolis. The center, a not-for-profit institution operated by Life/Leadership Development, Inc., welcomed its first visitors in November.

Designed to supplement children's classroom education, the center offers information in five areas: general health, family living, nutrition, substance abuse prevention and science/physical fitness. Programs are designed to complement and enhance the school curriculum, said Gary L. Weesner, president. "We can play a significant role in that team approach," Weesner said.

"Our goal is to promote healthy lifestyles through decision making," he said. The center staff tries to help children make wise decisions based on facts.

To present those health-related facts, professionally trained staff members conduct programs in theaters featuring colorful, three-dimensional displays and the latest technological equipment. Each theater has a laser video disk player, a video projector, a videocassette recorder, a random access projector and other computerized equipment.

But, in an effort to create an exciting learning environment, the programs also encourage some audience participation. Children

have buttons at their seats that will allow them to answer "yes" or "no" to questions or test their reaction time in a simulated situation in which they drive a car after drinking alcohol.

Programs in each theater are geared to the grade and age level of the audience. "Programs also offer a multi-sensory experience because children vary in their responses to different senses," said Dianne Foglesong, a staff health education specialist. Some children are visually oriented, while others are more oriented toward auditory stimuli.

TAM (Transparent Anatomical Mannikin) uses both visual and auditory means to explain body organs and functions. TAM is a 5-foot-8-inch, 75-pound model



Gary Weesner, president of the Ruth Lilly Center for Health Education, examines a skeleton on display in the science/physical fitness theater.

that is wired and equipped internally to show viewers arteries, veins, muscles and viscera. The corresponding anatomical part is lighted as it is discussed on an audiotape.

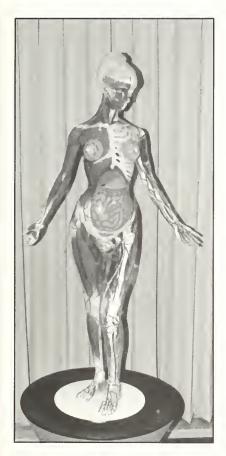
TAM is one of the many displays created especially for the center. The center's TAM, only the 32nd such mannikin in existence, takes two people working full time one year to make.

Each auditorium features its own electronically controlled displays. In the drug education theater, for example, a lighted threedimensional model demonstrates how drugs or alcoholic beverages slow the activity level in the brain.

The drug education theater also features a model of a crack lab and a typical home medicine cabinet stocked with various over-the-counter products. A video screen lists the ingredients in each product.

In the anatomy theater, children can see the digestive process at work in a three-dimensional slide of the body. The lighted displays also give children a look at cells, the circulatory system and the sensory organs. Programs on the senses include a look at an underthe-sink cabinet that contains household cleaning supplies that could be poisonous if ingested.

Boys and girls from grade five and up attend programs together in the Life Begins theater. Basic male and female anatomy and embryos and fetuses in various stages of development are portrayed in three-dimensional models. Older girls are taught about breast self-examination by feeling a realistic model of a breast that includes a lump. The importance of friends, the ingredients of a



TAM, the Ruth Lilly Center's Transparent Anatomical Mannikin, is designed to give young audiences information about the human body.

good relationship and steps involved in making decisions about dating, marriage and raising children also are discussed.

Programs in the Life Begins theater eventually will be designed for younger children, including information on menstrual hygiene for fourth grade girls.

The nutrition program is de-

signed "to enable children at an early age to make good decisions" about the foods they eat, Weesner said. Children learn what ingredients are contained in various foods, and they can pedal a stationary bicycle to find out how much exercise is needed to burn off the calories in those foods. Sheriff Tuffy Tooth, an oversize model of a tooth, is used for demonstrations on tooth-brushing and flossing.

Science/physical fitness theater programs will be available in the spring for adults as well as children. Coaches and athletic trainers hear about steroid use, treatment and prevention of athletic injuries, and how gear such as helmets and shoulder pads can protect especially vulnerable parts of the body.

Each instructional program is developed within the context of Health Education Proficiency Guidelines established by the Indiana State Department of Education. Ronald Blankenbaker, M.D., vice president for medical affairs at St. Vincent Hospital in Indianapolis, is chairman of the center's curriculum committee.

Currently, the center is open to school classes that have scheduled a 60- to 90-minute tour. Center staff members then can consult with the visiting teachers or school administrators to plan a program for the field trip.

Because the center's function is solely educational, there is no gift shop or snack bar.

School corporations are charged \$2.50 per student per visit. The remainder of the budget for the visits comes from individual, corporate, foundation and service club contributions.

The center is located at 2055 N. Senate Ave. in Indianapolis. For information, call (317) 924-0904. □



Sharon Roach, a health education specialist in the Life Begins theater at the Ruth Lilly Center, explains to children the various stages of development of human life during pregnancy.

editorial

Letter serves as inspiration to physicians

This editorial contains excerpts of a letter written Feb. 4, 1954, by Charles B. Carty, M.D., to his parents, David Jesse and Alvie L. Carty, in his second year of medical school at the University of Louisville. Dr. Carty, the ISMA alternate trustee from the Third District, died Sept. 14, 1989. His daughter, Kalen A. Carty-Kemker, a member of the junior class at the Indiana University School of Medicine, asked that this letter be published in her father's memory. She said the letter is "an inspiration to all physicians and aspiring physicians."

lacksquare never knew I could be so proud of anything as I am wearing my white coat and carrying my little black bag. It is very encouraging to reap a little reward for a lot of struggling. Medicine is beginning to take meaning, and that in itself is soul satisfying. They didn't waste any time about letting us examine patients. I have examined three this week already. Of course, the patients have already been examined and treatment carried out, but we never look at the records. We just examine and try to figure out the trouble on our own. I haven't missed a diagnosis yet. My cases haven't been very tricky, and they were easy to diagnose. I am hoping that next week they will give me some really tough ones.

"You know this medicine business is just like a game. You read and study and observe and accumulate facts within your mind about different findings; then you go to the patient and try to figure out by using what you know and what you have learned, the patient's trouble. Of course, we will be wrong sometimes, but now is the time to be wrong because we are just playing doctor. Even so, though, the relationship with the patient is great for the motivation of learning. I can truthfully say that I know now I would never be happy doing anything else. I still have a long uphill drag before I can be fairly sure that I will achieve my goals; however, I am getting closer.

"It would be useless for me to name the courses I am taking this semester, but there are nine in all, and they are the meat of medicine. After this year, I should surely have a pretty good framework on which to hang my next two years training and the experience of my practice throughout life. This is a never ending field. One man can never hope to learn it all, and one must never stop studying and growing. The secret of a good physician is one who never stops trying. It was hard for me to understand how a doctor could suffer physical strain and mental stress without ever complaining, but I think now I know the answer. You see each case as a human being with a problem – a problem that has an answer, and it is up to you as the doctor to solve this problem. The ability to solve this problem depends upon the physician's knowledge and this in itself is a challenge. When a physician looks at a case as a challenge and uses all his knowledge to solve it, he gets the greatest thrill. This thrill of conquest makes all the work and worry and fatigue seem like nothing.

"I hope I haven't bored you with this discussion as I know it means very little to you. But you see, if I can learn to always think of medicine as a challenge, it will take the drudgery out of my work and it won't be work at all. My life in medicine then can always be a happy one since I will know I am doing a good service and yet receiving personal satisfaction also. I know that I am getting closer to the things I have been searching for all my life and it fills

me with such joy ..." □



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auxiliary report

Kathy Cabigas ISMA Auxiliary

Each year, our nation and our state face new and more challenging health problems. And, year after year, the Indiana State Medical Association Auxiliary is at the forefront in meeting those challenges to improve the health and quality of life for Hoosiers. Even though each new year brings different approaches to solve health problems, our focus changes little, as we remain advocates for medicine.

Our national auxiliary continues to provide us with excellent guidelines for most health problems. However, the national auxiliary wants the major portion of each state and county health projects program for 1989-1990 to deal with adolescent health. To fulfill this goal, the national auxiliary is emphasizing two programs, and the ISMA Auxiliary is encouraging each county to help disseminate them throughout the state.

For the second year, the AMA Auxiliary is joining the American College of Obstetricians and Gynecologists and the American Academy of Family Physicians to help prevent teenage pregnancy with a public service campaign to air on television and radio. This year's campaign is different. It stresses the man's responsibility in preventing teen pregnancy. Each county auxiliary is asked to contact local television and radio stations to encourage broadcasters to air these educational messages.

The second project concerns nationwide, mandated HIV/AIDS

education in schools. All but eight states have mandated departments of education to have comprehensive health education information about sexuality issues, HIV prevention and AIDS. The AMA has requested that the AMA Auxiliary be part of a fiveyear project to educate youth about HIV infection. Each county has received a set of guidelines and is asked to assist in the implementation of HIV and AIDS education wherever gaps are present in the existing curriculum. The guidelines include facts about HIV, what auxiliaries can do, how to collaborate with school representatives and information about participation of the AMA in their youth HIV education project.

Last year, the ISMA Auxiliary was asked by the Indiana State Board of Health to assist in lowering the high infant mortality rate in Indiana. We have made this our number one health project priority for 1989-1990. ISMA Auxiliary involvement in helping to assure the health and wellbeing of pregnant women and their children comes in two forms.

First, we have been asked to be part of the Women, Infants and Children (WIC) program, a supplemental, federally funded food program for women, infants and children. Each county auxiliary that wishes to participate in this endeavor is asked to contact the local WIC office to see how to foster the program in its community.

The SOBRA Task Force is the second area of auxiliary involvement concerning infant mortality. While SOBRA legislation makes

all pregnant women at or below 100% of the poverty level eligible for Medicaid, the program will require careful planning for successful implementation. This program will target about 9,000 young women who are borderline eligible and women who don't realize they are eligible for these services. The completion of the task force on Nov. 8 should have brought several answers about how Indiana physicians, auxilians and citizens can help lower the high infant mortality rate.

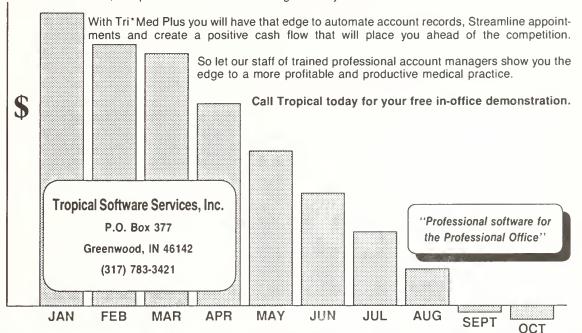
Health projects continue to be developed by the nation and the state, but the implementation and hard work fall to county auxilians. Our counties continue to meet these challenges and are involved in numerous on-going health programs.

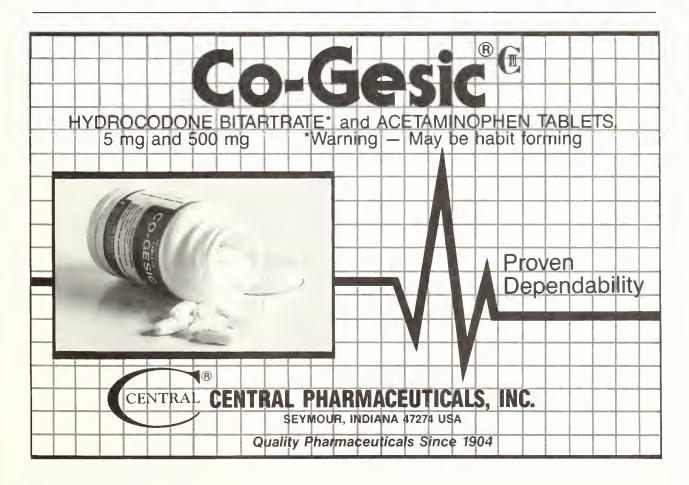
In April, the Wayne-Union County Auxiliary presented an Adolescent Suicide Seminar, and more than 100 professionals attended. The Delaware-Blackford County Auxiliary recently presented a program on volunteerism in the community. This program not only identified how many groups need help but also how many Delaware-Blackford auxilians already are involved. The Delaware-Blackford auxilians have already helped the WIC office, county health clinics, The Hospitality House, the Ball Memorial Hospital Auxiliary and the Great American Smokeout.

This year will not be different for ISMA auxilians. We are here to improve the health and quality of life of the people of Indiana.

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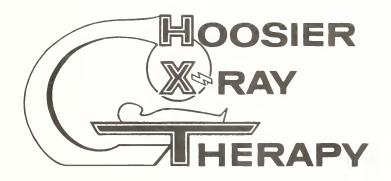
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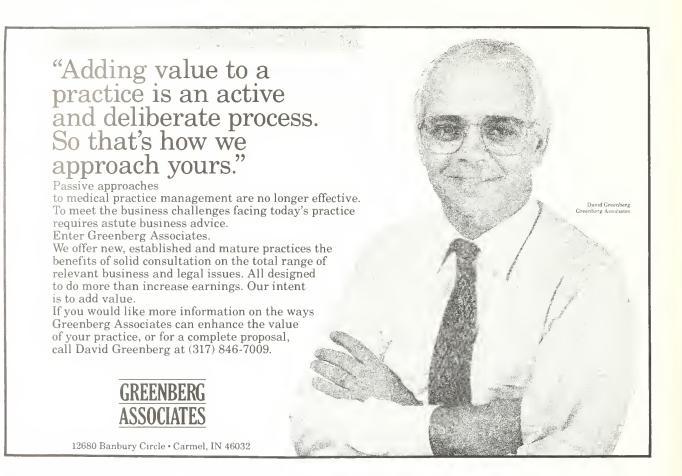
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Dr. Daniel R. Elliott, chairman of the Department of Radiology at St. Vincent Hospital in Indianapolis, was named one of 107 new fellows by the American College of Radiology's Board of Chancellors.

Hal E. Broxmeyer, Ph.D., a faculty member of the Indiana University School of Medicine and scientific director of the Walther Oncology Center in Indianapolis, has been elected for a one-year term as president of the International Society for Experimental Hematology; his term begins in

Dr. Douglas P. Zipes, an Indianapolis cardiologist and surgeon and a faculty member of the Indiana University School of Medicine, was elected president of the North American Society of Pacing and Electrophysiology for one

Dr. Richard T. Miyamoto, an Indianapolis otolaryngologist and a faculty member of the Indiana University School of Medicine, has accepted an appointment by Secretary of Health and Human Services Louis Sullivan, M.D., to serve on the National Deafness and Other Communication Disorders Advisory Council of the National Institutes of Health.

Dr. Dean D. Maglinte, chief of gastrointestinal radiology at Methodist Hospital in Indianapolis, served on the faculty of the Symposium on Biliary Lithotripsy and Adjunct Procedures held in Atlanta, Ga., in October; he spoke on "Gallstone Imaging: Re-evaluation of the Role of the Oral Cholecystogram in the Diagnosis of Gallbladder Disease" and "Implementation of a Biliary Lithotripsy Center - The Role of Radiology in a Private Hospital Setting."

Dr. Frederick M. Kelvin, gas-

trointestinal radiologist at Methodist Hospital in Indianapolis, was a guest speaker at the 13th Annual Michigan Fall Radiology Conference; he presented "Computed Tomography of the Colon" and "Imaging of Disorders in the Ileocecal Area."

Dr. Scott A. Shapiro, assistant professor in the Neurosurgery Department at the Indiana University Medical Center, had a paper published in the October issue of Neurosurgery, titled "Laser Neodymium YAG: A Laser Assisted Vascular Anastomosis," and one in the October issue of Surgical Neurology, titled "Comparative Study of Neuroma Formation in the Rat Sciatic Nerve After CO, Laser and Scalpel Neurectomy in Combination with Milliwatt CO, Laser Sealing."

Drs. James A. Hall, Bernard R. Hall and Duffy C. Murphy, all of Logansport, received the Central Association of Obstetrics and Gynecology 1989 Community Hospital Award for their paper titled "Surgical Management of Breast Disease in an Obstetrics and Gynecology Group." The paper was presented at its annual meeting in Scottsdale, Ariz., in October.

Dr. Randolph W. Lievertz of Indianapolis presented a continuing medical education lecture on the latest advances in hormone replacement therapy in menopause to the physicians of Logan County Medical Society in Lincoln, Ill. He also presented grand rounds to the medical staffs at Regional Hospital in Terre Haute and Bloomington Hospital.

Drs. Gregory G. Bojrab and Michael J. Fletcher, both of Indianapolis, have announced the association of Dr. James A. Harris with Northeast Medical Group for the practice of internal medicine.

Dr. Maurice Kaufman, an Indianapolis internist, was awarded the 1989 George E. Davis Award by the Interfaith Fellowship on Religion and Aging at the closing luncheon of the 1989 Governor's Conference on Aging; he received the award for his contributions to and on behalf of older adults.

Dr. Richard H. Stein, a Vincennes anesthesiologist, became the first Indiana physician to serve as president of the American Society of Anesthesiologists; he became president at its 1989 meeting held in New Orleans in October.

Dr. Robert A. Rauh of Wabash has been named a diplomate of the American Board of Family Practice.

Dr. David B. Templin, a Lowell family practitioner, has retired after practicing 52 years.

Dr. Jack H. Hall, head of the cardiovascular services department at Methodist Hospital, received the Society of Prospective Medicine's Lewis C. Robbins Recognition Award for creating a computer-evaluated health hazard appraisal that is used in hospitals throughout the world.

Dr. Richard L. Pitman, a Columbus radiologist, has been named a fellow of the American

College of Radiology.

Dr. Robert M. Kelsey Jr. of LaPorte has been named 1989 Family Physician of the Year by the 13th district of the Indiana Academy of Family Physicians.

Dr. Betty J. Campbell, a Terre Haute pediatrician, has been appointed to the Terre Haute Regional Hospital board of trustees.

Dr. Joseph J. Sala, a Merrillville family practitioner, received the Columbian Award from the St. Thomas Council, Knights of Columbus, in recognition of his service to the church, community and

Knights of Columbus.

Dr. Christopher M. Nixon of Fort Wayne has been named a diplomate of the American Board of Family Practice.

Dr. Frank Johnson, director of the Marion County Health Department, has been elected chairman and Dr. Gerald C. Walthall, an Indianapolis obstetrician and gynecologist, has been elected vice chairman of the Marion County Medical Society board of direc-

Dr. David L. Jetmore, a Richmond otolaryngologist, designed a telephone screening test called "Dial-A-Hearing Screening Test" to test Wayne County residents for common hearing problems.

Dr. Henry C. Bock Jr., director of outreach programs for the trauma services department at Methodist Hospital in Indianapolis, has been named medical director of the new State Emergency Management Agency; he will act as a consultant for the state's emergency medical response and disaster management efforts.

Dr. Jane M. Hoopes, an Evansville pediatrician, will retire in January as medical director of the Evansville-Vanderburgh County Health Department after 13 years.

Dr. Burton Kintner, an Elkhart family practitioner and former Elkhart county coroner, has retired after 40 years of medical practice.

Dr. Ronald E. Sautter of South Bend has been certified as a diplomate of the American Board of Family Practice.

Dr. Hugh H. Steele, a retired Lafayette gastroenterologist, was awarded the Distinguished Eagle Scout Award from the Sagamore Council of the Boy Scouts of

Physician Recognition Award recipients

The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.

Estacio, Romeo Y., Munster Garber, John E., Indianapolis Gize, Raymond W., Fort Wayne Hasan, Javed, Michigan City Horning, Richard R., Logansport Johnston, Richard M., Fort Wayne Kuhn, Arthur J., Munster

Lee, Thomas M., Hartford City Melchior, Jerome E., Vincennes Ng, Anastacio C., Indianapolis Rahman, Sheikh A., Lawrenceburg Rusche, Thomas J., Newburgh Yolles, Elliott A., Indianapolis

America in September.

Dr. Joseph Tuchman of Indianapolis has retired after 45 years of family practice. 🖵

New ISMA members

L. Annette Alpert, M.D., Bloomington, internal medicine.

Anton G. Beffa, M.D., Bloomington, ophthalmology.

Razia Begum, M.D., Michigan City, pediatrics.

Ignacio R. Beltran Jr., M.D., Indianapolis, anesthesiology.

Jeffrey J. Bilotta, M.D., Terre Haute, gastroenterology.

John H. Black, M.D., Indianapolis, family practice.

Charles R. Block, M.D., Evansville, pediatrics.

Thomas E. Bowser, M.D., Bloomington, neurology.

Dennistoun K. Brown, M.D., Crawfordsville, general surgery.

Charles E. Buck, M.D., Terre Haute, internal medicine.

Carl F. Conwell, M.D., Terre

Haute, family practice.

James J. Creighton Jr., M.D., Indianapolis, orthopedic surgery.

Charles R. Crockett, M.D., Bloomington, emergency medicine.

Art F. Donnersbach, M.D., Lawrenceburg, anesthesiology.

Jeffrey A. Eck, M.D., South Bend, family practice.

Mark A. Edwards, M.D., Indianapolis, general surgery.

Philip E. Fisher, M.D., South Bend, family practice.

Matthew M. Fornefeld, M.D., Bloomington, ophthalmology.

Edward J. Fox, M.D., Evansville, obstetrics/gynecology.

William L. Giese, M.D., South Bend, therapeutic radiology.

Oliver D. Gilliam, M.D., South Bend, internal medicine.

Ajay Gupta, M.D., Bluffton, neurology.

James E. Gutmann Jr., M.D., Evansville, family practice.

David G. Haney, M.D., Richmond, ophthalmology.

people

renceburg, obstetrics/gynecology. Zachary I. Hodes, M.D., Indianapolis, cardiovascular diseases. Richard A. Hoefer Jr., M.D., Jeffersonville, oncology. Tom F. Hrisomalos, M.D., Bloomington, infectious diseases. S. Jesse Hsieh, M.D., Granger, family practice. Mruthyamjaya R. Ivaturi, M.D., Connersville, radiology. Margaret B. Johnson, M.D., Sellersburg, internal medicine. Annabella Juhasz, M.D., Michigan City, orthopedic surgery. Azzam S. Kanaan, M.D., Kalamazoo, Mich., neurology. Frederick W. Kemen, M.D., Kokomo, internal medicine. Thomas N. Kramer, M.D., Evansville, family practice. Carl E. Kuenzli, M.D., Fort Wayne, internal medicine. Jennifer L. Lackman, M.D., South Bend, internal medicine. Brian J. Logue, M.D., Bloomington, urological surgery. Robert W. Maitlen, M.D., Con-

nersville, family practice.

Wesley W. Hedges, M.D., Law-

Richard K. Malone, M.D., Bloomington, pediatrics. Thomas J. Martin, M.D., Bloomington, family practice. Thomas B. Millikan, M.D., New Castle, general practice. Steven R. Mohnssen, M.D., Terre Haute, pulmonary diseases. Peter M. Nefcy, M.D., Bloomington, radiology. Jill O. Noreuil, M.D., South Bend, pediatrics. Charles J. Nowacek, M.D., Terre Haute, orthopedic surgery. Kevin C. Preuss, M.D., Columbus, cardiovascular diseases. Eric N. Prystowsky, M.D., Indianapolis, internal medicine. Mirza Raheem, M.D., Michigan City, internal medicine. Rosmarin C. Riley, M.D., Michigan City, internal medicine. John B. Robertson Jr., M.D.,

Jeffersonville, psychiatry.

sonville, psychiatry.

Andrew T. Saltzman, M.D.,

Evansville, orthopedic surgery.

Douglas E. Schultz, M.D.,

Evansville, pulmonary diseases.

Steven R. Shelton, M.D., Jeffer-

Porte, general surgery. Daniel L. Sullivan, M.D., Elkhart, emergency medicine. Liliana J. Torres-Popp, M.D., Jeffersonville, plastic surgery. Richard S. Troiano, M.D., Indianapolis, plastic surgery. Matias J. Vega, M.D., Indianapolis, family practice. Charles S. Vore, M.D., Indianapolis, anesthesiology. Franklin D. Walker, M.D., Indianapolis, psychiatry. David J. Walsh, M.D., Batesville, general surgery. Gene A. White, M.D., Indianapolis, general practice.

David W. Smith, M.D.,

Richmond, internal medicine.

Gregory A. Spitz, M.D., La

Residents

Kelly J. Cassedy, M.D., Indianapolis, diagnostic radiology.

Nancy F. Slater, M.D., Indianapolis, pediatrics.

Perry E. Wethington, M.D., Indianapolis, radiology.

Michelle A. Wysong, D.O., South Bend, family practice.

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news briefs

Infant mortality broadcast set

"Infant Mortality: The Medical Perspective," a live teleconference, will be broadcast Wednesday, March 8, from noon to 1:30 p.m. on the Medical Television Network from the Indiana University School of Medicine.

This statewide teleconference is designed to inform physicians about community resources available to patients at risk for infant mortality, socioeconomic factors contributing to infant mortality and ways in which they can respond to the problem. Loren P. Petersen, M.D., maternal and child health consultant to the Indiana State Board of Health and professor of obstetrics and gynecology at the I.U. School of Medicine, will lead a panel of Indiana experts as they discuss these issues.

The teleconference is accredited for CME Category 1 credit. For more information, call Janean Gilbert or Melody Dian at (317) 274-4083.

Neonatal resuscitation program offered

The American Heart Association and the American Academy of Pediatrics are sponsoring an educational program on neonatal resuscitation.

This self-study program includes reviewing a manual on neonatal resuscitation and performing practice activities and skills necessary for a neonatal resuscitation and concludes with certification through examinations of didactic information, decision making and skills necessary to provide a neonatal resuscitation. Many perinatal centers in Indiana are sponsoring certification courses for this program.

The goal of the program is to have in every delivery room a

person capable of providing a complete neonatal resuscitation as well as at least one person who is capable of assisting during a complete neonatal resuscitation.

For more information, contact a regional perinatal center or William A. Engle, M.D., Department of Pediatrics, 702 Barnhill Dr., R-208, Indianapolis, IN 46202-5012, (317) 274-4719.

PICI moves office

Physicians Insurance Company of Indiana has moved its corporate office to a new location. The new address is 8425 Woodfield Crossing Blvd., Suite 300, P.O. Box 40986, Indianapolis, IN 46240.

The new phone numbers are 1-800-284-7424 or (317) 254-3970. The fax number is (317) 254-3989.

Prescription forms offered

Hook Drugs is offering tamperproof prescription forms to prescribers as a professional courtesy to those who request them.

Hook officials say the new forms will make attempts at counterfeiting and duplicating difficult, if not impossible. Any attempt to photocopy a prescription form will reveal a distinctive green background with the word "VOID" clearly shown.

Prescribers are urged to store all prescription blanks in a secure place with access limited to individuals who have authority to prescribe. For information, write Hook Drugs, P.O. Box 26285, Indianapolis, IN 46226-0285.

Final data bank regulations published in Federal Register

The final regulations for implementing the Health Care Quality Improvement Act National Practitioner Data Bank were published in the Oct. 17 Federal Register.

The data bank, which will be a governmental repository of disciplinary actions taken against physicians by state licensing authorities and other health care entities, is expected to begin operation within two to four months. It will include a record of professional liability claims payment.

UNISYS Corp., the private firm that has a federal contract to operate the data bank, said it will conduct an extensive educational campaign to inform licensing agencies and medical organizations involved in the disciplinary process that they will be required to report adverse actions taken against physicians.

The AMA will notify members when reporting requirements take effect.

Hewlett-Packard wins awards

Hewlett-Packard Company's Medical Products Group has won two 1989 Significant Achievement in Major Medical Electronics (SAMME) awards.

Developed by M.D. Buyline Inc., of Dallas, the SAMME award focuses attention on medical manufacturers whose equipment contributes to the advancement of health care. Hewlett-Packard won awards in the echocardiography and patient monitoring categories.

How to live longer

Life expectancy for a man at age 30 can be increased by more than 15 years – from 74 to nearly 90 years – if certain risk factors such as smoking, high cholesterol, high blood pressure and obesity are eliminated. This announcement came from Dr. Kenneth G. Manton and his colleagues at Duke University. Dr. Manton's research was funded by the National Institute on Aging.

obituaries

Jerome E. Holman Jr., M.D.

Dr. Holman, 72, an Indianapolis general practitioner, died Sept. 30.

He was a 1942 graduate of the Indiana University School of Medicine. He was an Army field hospital commander in Europe during World War II.

Dr. Holman practiced 44 years until his retirement in 1988. He was on the staffs of Methodist and Community hospitals and served as Marion County coroner from 1949 to 1952. He was a member of the American Academy of Family Physicians.

Joseph D. Howell, M.D.

Dr. Howell, 72, of Noblesville died Oct. 7 at St. Vincent Hospital in Indianapolis.

He was a 1942 graduate of the St. Louis University School of Medicine and was director of the Allergy Clinic of Wishard Memorial Hospital from 1960 to 1968. He served in the Army Medical Corps during World War II and was awarded the Bronze Star.

Dr. Howell was in private practice in Indianapolis from 1949 until 1982. He was medical director of the Anderson Plasma Center from 1986 until his death. He was a member of the American Academy of Allergy and Immu-

nology and the American College of Allergists.

Herbert S. Johnson, M.D.

Dr. Johnson, 79, a retired general surgeon and former president of the Arnett Clinic, died Sept. 14 in Home Hospital in Lafayette.

He was a 1943 graduate of the Loyola University School of Medicine and a captain in the Army Medical Corps during World War II.

Dr. Johnson, a member of the American Society of Abdominal Surgeons, served as chief of surgery at St. Elizabeth Hospital Medical Center from 1960 to 1962 and was past president of the Home Hospital medical staff. He retired in 1980.

Dean A. Richards, M.D.

Dr. Richards, 57, a South Bend general practitioner, died Sept. 23.

He was a 1965 graduate of the Indiana University School of Medicine and was assistant director of the family practice clinic in St. Joseph's Medical Center.

Dr. Richards was on the staffs of St. Joseph's and Memorial hospitals in South Bend and St. Joseph's Hospital in Mishawaka. He was certified by the American Board of Family Practice.

Bronie A. Vingis, M.D.

Dr. Vingis, 77, a retired Greenfield general practitioner, died Sept. 30 at Regency Place in Greenfield.

He was a 1949 graduate of the Indiana University School of Medicine. He was an Army veteran of World War II and past president of the Hancock County Medical Society.

Dr. Vingis practiced 24 years before retiring in 1974.

Roscoe S. Yegerlehner, M.D.

Dr. Yegerlehner, 85, a retired Kentland general practitioner, died Aug. 28 in Sarasota, Fla.

He was a 1938 graduate of the Indiana University School of Medicine and a Navy medical staff veteran of World War II.

Dr. Yegerlehner retired from private practice in 1967 and then served six years on the health staff at Purdue University and four years as a part-time staff member at Home Hospital in Lafayette. He was a former delegate from the Jasper-Newton County Medical Society, a past president of the Newton County Medical Society and a member of the ISMA Fifty Year Club.

Memorials: Indiana Medical Foundation

The Indiana Medical Foundation Inc., was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or educational purposes." It provides financial assistance to support the educational mission of INDIANA MEDICINE. Contributions made to the foundation are deductible by donors in accordance with the Internal Revenue Code. Gifts are deductible for federal estate and gift tax purposes.

The foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

J. Melvin Masters, M.D. Nancy A. Roeske, M.D. Richard Sharp John W. Beeler, M.D. Mildred Ramsey Earl Mericle, M.D.

John Bush Dallas McKelvey



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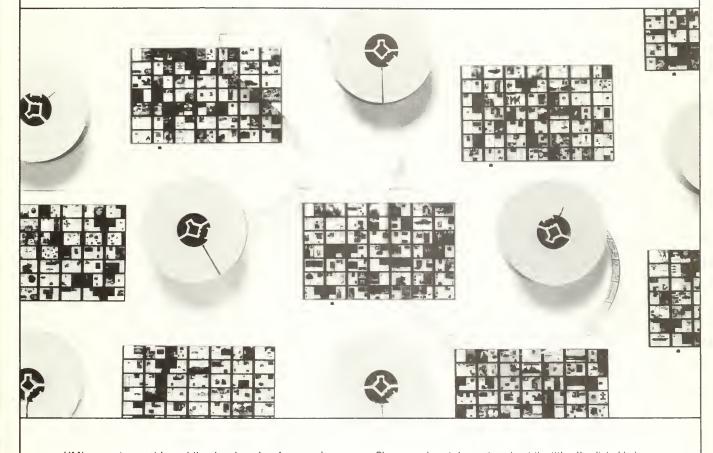
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cation Program. The Fort Wayne Family Practice Residency is accepting applications for the position of director, family practice residency. The residency is a community-based program, universityrecognized, ACGME-approved residency. The approval is for 10 residents in each of three years. There are currently 30 residents in the residency. The applicant will be expected to present credentials establishing eligibility for Indiana University School of Medicine Faculty appointment. Applicants will be board certified in family practice and possess or obtain a current Indiana license to practice medicine in Indiana. The director must qualify for the medical staffs at all three teaching hospitals. Inquiries, credentials and curriculum vitae with references should be mailed to: Search and Screen Committee, Fort Wayne Medical Education Program, 2448 Lake Ave., Fort Wayne, IN 46805, (219) 422-6573.

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VASOTEC (ENALAPRIL MALEATE MSD)

VASOTEC is available in 2.5-mg, 5-mg, 10-mg, and 20-mg tablet strengths

Contraindications: VASOTEC® (Enalapril Maleate, MSO) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warnings: Angioedema: Angioedema of the lace, extremities, lips, tongue, glottis, and/or larynx has been reported in patientsfreadewith ACE inhibitors, including VASOTEC insuchcases, VASOTEC should be promptly discontinued and the patient carefully observed until the swelling disappears. In instances where swelling has been conflined to the lace and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relevancy expriptions. Angioedema associated with faryngale adema may be fatal. Where there is involvement of the tongue, glottis, a larynx likely to cause a liway obstruction, appropriate therapy, e.g., subcultaneous epinephrine solution. 1:1000 (0.3 mL to 0.5 mL), should be promptly administered. (See AOVERSE REACTIONS.)

1:1000 (0.3 mL to 0.5 mL), should be promptly administered. (See AOVERSE REACTIONS)

Hyporenson Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Heart failure patients given VASOTEC commonly have some reduction in blood pressure, especially with the tirst dose, but disconfinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed, caution should be observed when initiating liberapy (See OOSAGE AND AOMINISTRATION) Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute real failure and/or death, include those with the following conditions or characteristics, heart failure patients, reduce the diuretic dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or all depletion of any etiology it may be advasable to eliminate the diuretic (except in heart failure patients), reduce the diuretic dose, or increase sall intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to followed closely for the tirst two weeks of treatment and whenever the dose of enalogini and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular accident lesses in whom an excessive stall in blood pressure could result in a myocardial infaction or cerebrovascular accident lesses in whom an excessive stall in blood pressure could result in a myocardial infaction to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. It symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant duretic may be necessary.

overlops, a dose reduction of discominidation of VASUTEC of contominant outlete may be encessary. Meurtopena/dagranulocytosis. Another ACE inhibitor, captioni, has been shown to cause agranulocytosis and bone mar-row depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially it in also have a collagen vascular disease. Available data from clinical trials of lenalgorit are insufficient to show that enalative does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalagint (cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Precautions: General Impaired Renal Function As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliquria and/or progressive azotemia and rarely with acute renal failure and/or death

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum crealinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enatapril and/or diuretic therapy. In such patients, renal function should be monitored during the first lew weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Oosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

tion and/or discontinuation of the diuretic and/or VASOTEC may be required
Evaluation of patients with hypertension or heart failure should always include assessment of renal
function. (See DOSAGE AND ADMINISTRATION)

Hyperkalemia. Elevated serum potassium (> 5.7 mEq.(L) was observed in approximately 1% of hypertensive patients in
clinical trials. In most cases hese were isolated values which resolved despite continued therapy. Hyperkalemia was a
cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of polassium-sparing diuretics, potassium supplements, and/or polassium-containing sall substitutes, which should be used cautiously, if at all, with VASOTEC (See *Drig Interactions*).

Surgery/Anesthesia. In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalaprin may block angoldensin ill formation of compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients

Angioedem Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril Patients should be so advised and told to report immediately any signs or symploms suggesting angioedema (swelling of face, extremities, eyes, lips, fongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician Hypolension. Patients should be cautioned to report lightheadedness especially during the first few days of therapy if actual syncope occurs, the patients should be fold to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure, patients should be advised to consult with the physician.

Hyperkalemia Patients should be told not to use salt substitutes containing polassium without consulting their physician.

Neutropenia Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be

a sign of neutropenia a signal declaration to report prompting any indication of intercent e.g., so let man, every windown as a sign of neutropenia. NOTE As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended.

Drug Interactions

Drug Interactions
Patents on Duretic Therapy. Patents on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapil. The possibility of hypotensive effects with enalapil can be minimized by either discontinuing the diuretic increasing the salt intake prior to initiation of treatment with enalapil. If it is necessary to continue the diuretic provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized for at least an additional hour (See WARNINGS and ODSAGE AND ADMINISTRATION). Agents Causing Renin Release. The antihypertensive effect of VASOTEC is augmented by antihypertensive agents that cause renin release (e.g., diuretics).

Other Cardovascular Agents. VASOTEC has been used concomitantly with bela-adrenergic-blocking agents, methyl-dopa, nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

adverse interactions

adverse interactions

Agents Increasing Serum Polassium VASOTEC attenuates polassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), polassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concominant use of themagents is indicated because of demonstrated hypokalema, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving utgesters.

VASOTEC. Lithium. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. Although a causal relationship has not been established, it is recommended that caution be exercised when lithium is used concomitantly with VASOTEC and serum lithium levels should be monitored frequently.

mentioned frequently properties with the maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day, but not at 30 mg/kg/day (50 times the maximum human dose).

Radioactivity was found to cross the ptacenta following administration of tabeled enalaprit to pregnant hamsters

There are no adequate and well-controlled studies of enabaprit in pregnant women. However, data are available that show enabaprit crosses the human placenta. Because the risk of fetal toxicity with the use of ACE inhibitors has not been clearly defined, VASOTEC* (Enabaprit Maleate, MSO) should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

poterimarisation the teads

Postmarketing experience with all ACE inhibitors thus far suggests the following with regard to pregnancy outcome inadvertent exposure limited to the first trimester of pregnancy has not been reported to affect tetal outcome adversely Felal exposure during the second and third frimesters of pregnancy has been associated with felal and neonatal morbidity and morbidity.

and mortality
When AE inhibitors are used during the later stages of pregnancy, there have been reports of hypotension and decreased
renal perfusion in the newborn. Oligohydramnios in the mother has also been reported, presumably representing
decreased renal function in the letus infants exposed in when to Act inhibitors should be closely observed for hypotenscone, oliguna, and hyperkalemia. It oliguna occurs, attention should be directed toward support of blood pressure and
renal perfusion with the administration of thiuds and pressors as appropriate. Problems associated with prematurity such as patent ductus arterious have occurred in association with malernal use of ACE inhibitors, but it is not clear whether
they are related to ACE inhibition, malernal hypertension, or the underlying prematurity.

Nursing Mothers. Milk in lactating rats contains radioactivity following administration of I*C enalapril mateate. It is not
known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be
exercised when VASOTEC is given to a nursing mother.

Pediatric Use. Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for safety in mine than 10,000 patients, including over 1000.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well folerated in controlled clinical trials involving 2987 patients.

HYPERTENSIDN The most frequent clinical adverse experiences in controlled trials were headache (5.2%), dizziness

(4.3%), and ratigue (3%). Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthema (1.1%). HEART FAILURE. The most frequent clinical adverse experiences in both controlled and uncontrolled trials were dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients freated with VASOTEC in both controlled and uncontrolled clinical frials were flatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthema (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), anging pectors (1.5%), aususe (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspinea (1.3%), unnary fract infection (1.3%), rash (1.3%), and myocardial inflaction (1.2%).

Other serious clinical adverse experiences occurring since the drug was markeled or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each

category Cardiovascular Cardiac arrest, myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, Hypotension), cardiac arrest, pulmonary embolism and infarction, trythm disturbances, afrail fibrillation, palpitation Digestive, lleus, pancreatitis, hepatitis or chotestatic jaundice, melena, anorexia, dyspepsia, constipation, glossitis

Nervous/Psychiatric Oepression, contusion, ataxia, somnotence, insomnia, nervousness, paresthesia Urogenital Renat faiture, oliguria, renal dysfunction (see PRECAUTIONS and ODSAGE AND ADMINISTRATION)

Bespiratory Bronchospasm, rhinorrhea, ashma, upper respiratory infection

Skin Herpes zoster, pruritus, alopecia, flushing, photosensitivity

Diher Vascultis, muscle cramps, hyperhidrosis, impotence, blurred vision, taste alteration, finnitus

A symptom complex has been reported which may include lever, myatgia, and arthratgia, an elevated erythrocyte sedimentation rate may be present. Rash or other dermatologic manifestations may occur. These symptoms have disappeared after discontinuation of therapy.

peared after discontinuation of therapy

Angioedema Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, longue, gloths, and/or farynx occurs treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately (See WARNINGS.)

Hypotension. In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure (See WARNINGS.)

Climical Laboratory Test Findings
Serum Electrolytes Hyperkalemia (see PRECAUTIONS), hyponatremia

Serum Electrolytes: Hyperkatemia (see PHECAUTIONS), hyponatremia Creatinine, Biood Urea Mitrogen In controlled clinical trials, impor increases in blood urea nitrogen and serum creati-nine, reversible upon disconlinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving disconsisting disconsisting or in patients with renal artery stenosis. (See PHECAUTIONS.) In patients with heart failure who were also receiving discretises with or without digitalis, increases in blood urea nitrogen or serum creatinine, usualty reversible upon discontinuation of VASOTEC and/or other concomitant durierts therapy were observed in about 11% of patients. Increases in homoglobin and Hematocrit. Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 g.% and 1.0 vol.%, respectively occur frequently in either hypertension or heart failure patients treated with VASOTEC but are rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discon-tiqued therapy due to a nemia.

tinued therapy due to anemia

Other (Causal Relationship Unknown) In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported Liver Function Tests. Elevations of liver enzymes and/or serum bilirubin have occurred

Dosage and Administration: Hyperfension in patients who are currently being treated with a diuretic, symptomatic hypotension occasionally may occur following the initial dose of VASOTEC. The diuretic should, it possible, be discontinued for two to three days before beginning therapy with VASOTEC to reduce the likelihood of hypotension. (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC to reduce the likelihood of hypotension (See WARNINGS.) If the patient's blood pressure is not controlled with VASOTEC atome, diuretic therapy may be resumed if the duretic cannot be discontinued, an initial dose of 2.5 mg should be used under medical supervision for al least two hours and until blood pressure has stabilized for at least an additional hour. (See WARNINGS and PRECAUTIONS, Drug Interections.)

Interactions.)

The recommended initial dose in patients not on diuretics is 5 mg once a day. Oosage should be adjusted according to blood pressure response. The usual dosage range is 10 to 40 mg per day administered in a single dose or in two divided doses in some patients treated once daily, the antitrypertensive effect may diminish toward the end of the dosing interval in such patients, an increase in dosage or twice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diurefic may be added.

in such patients, an increase in obsage or invice-daily administration should be considered. If blood pressure is not controlled with VASOTEC alone, a diurelic may be added. Concomitant administration of VASOTEC with potassum supplements, potassum salt substitutes, or potassium-sparing diurerics may lead to increases of serum potassium (see PRECAUTIONS).

Dosage Adjustment in Hypertensive Patients with Renal Impairment. The usual dose of enalagini is recommended for patients with a creatinine clearance. >30 mLmin (serum creatinine of up to approximately 3 mg/dt). For patients with retainine in the patients with a creatinine clearance. >30 mLmin (serum creatinine of up to approximately 3 mg/dt). For patients with retainine to the patients with a creatinine clearance. >30 mLmin (serum creatinine) and the patients with a creatinine to the obage may be titrated upward until to lood pressure is controlled or to a maximum of 40 mg data. Patients with a service of the patients with divertice and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC is indicated as adjunctive therapy with diuretics and digitalis. The recommended starting dose is 2.5 mg once or twice daily. After the initial dose of VASOTEC with divertical patients with a service of the patients with a patients. The patients with a patients with patients with patients with patients with patients. The patients with severe hearf tailure (NYHA Class IV), patients were resident with patients with p

namic response. (See WARNINGS.)

Dosage Adjustment in Heart Failure Patients with Renal Impairment or Hyponatremia. In heart failure patients with hyponatremia (serum sodium < 130 mEq.(1) or with serum creatinine >1.6 mg/d1, therapy should be initialed at 2.5 mg daily under close medical supervision. (See 0.05AGE AND AOMINISTRATION, Heart Failure, WARNINGS, and PRE-CAUTIONS, Drug Interactions.) The dose may be increased to 2.5 mg bird., then 5 mg bird, and higher as needed, usually at intervals of four days or more, it at the time of dosage adjustment there is not excessive hypotension or significant deterioration of renal function. The maximum daily dose is 40 mg.

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For more detailed information, consult your MSD Representative or see Prescribing Information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, PA 19486



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